

THE  
American Journal of Education.

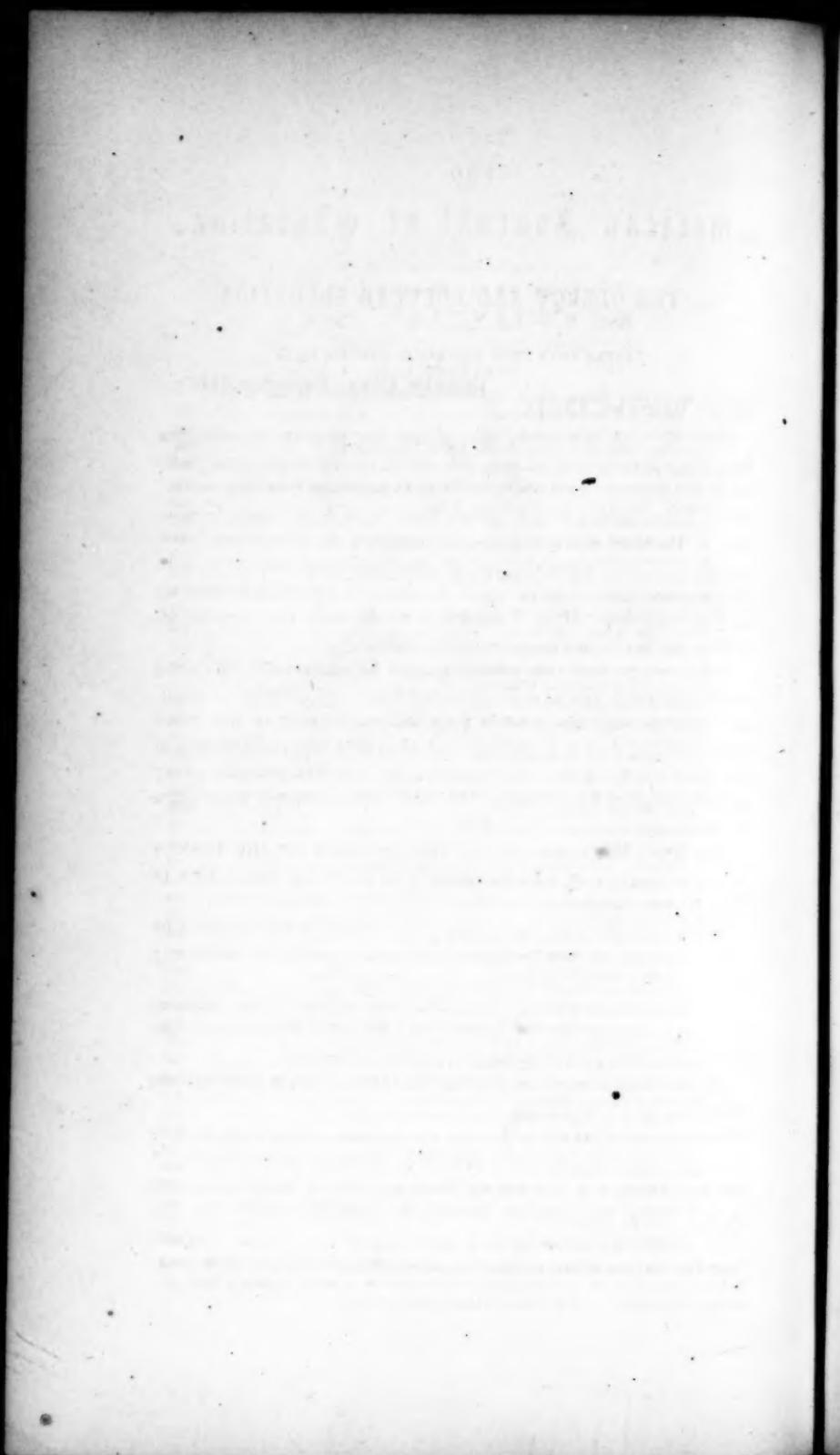
[NATIONAL SERIES,]

No. 2.—JANUARY, 1868.

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THE AMERICAN JOURNAL OF EDUCATION, *National Series*, Volume I., for 1867-8, edited by Henry Barord, LL. D., U. S. Commissioner of Education, is issued quarterly at \$4.00 per annum, (four numbers,) by D. N. CAMP, Publisher, Hartford, Conn.



## I. THE CLERGY AND POPULAR EDUCATION.

LETTER FROM PROF. WILLIAM C. FOWLER, LL. D.

DURHAM, CONN., December, 1867.

HENRY BARNARD, LL. D.:

*Dear Sir* :—A few weeks since I had the pleasure of receiving from you a letter, in which you ask me to communicate some facts connected with the common schools in Connecticut "as they were." While I was endeavoring to collect these facts, I met some Gentlemen in Hartford who are active in promoting the educational interests of the Commonwealth; one of whom encouraged me to prepare for the press, some remarks which I made on a topic which came up in that interview. This I consented to do, with the purpose of uniting the two topics in one communication.

But to whom shall this communication be addressed? My mind readily turned to you as a distinguished friend and advocate of popular education who has labored long and successfully in this State and elsewhere, first as a pioneer, and then as a victorious soldier, in this good cause. I feel too assured, that you will welcome every well-meant effort for promoting the same cause, however inadequate it may be.

The topic, last mentioned, is, **THE PROVINCE OF THE CLERGY OF CONNECTICUT IN THE PROMOTION OF POPULAR EDUCATION IN THIS COMMONWEALTH.**

These remarks and statements, will, I trust, be well received by them, inasmuch as they are in harmony with the views of the clergy of Connecticut from 1635 to the present time.

The proposition which I shall endeavor to sustain, by the following plain arguments, is this, *Ministers of the Gospel in Connecticut ought to take an active part in promoting popular education.*

My first argument in support of this proposition, is derived from *the nature of Christianity.*

It is a religion which addresses accountable beings through their intellect. Just in proportion, therefore, as you improve their intellect by culture, will you enlarge their capacity of being influenced, in their moral instincts, by the objects of divine truth in that religion. Now as christianity is a general provision for the spiritual wants of all mankind, we may be sure, that all classes of the com-

munity ought to experience so much of intellectual culture as will enable them to appreciate and appropriate the full benefit of that provision.

Other religious systems were designed, at least in some of their parts, for certain privileged orders, who should enjoy high mental culture; while the many, the *oi polloi*, were excluded from a full participation. Those systems had their esoteric or secret doctrines, which were communicated to the favored few, the initiated; and their exoteric or superficial doctrines, which were communicated to the common people, who were supposed to be incapable of comprehending those deeper doctrines.

But among christians it is not so. To the poor the Gospel is preached. To them it is given to know the mysteries of the Kingdom. Now in order that this preaching be effectual, in order that these mysteries be adequately comprehended, some degree of mental cultivation is necessary. Evidently, then, it is the duty of the christian minister to promote the intellectual improvement of those whom he wishes to influence by his preaching; for in so doing he is preparing them to understand and appreciate the truths and duties of the Christian religion, and to yield their conscience and their heart to Christ the author of that religion. No christian minister, therefore, is justified in standing aloof from the great cause of popular education; for, without it, the light of the Gospel will shine in darkness, and the darkness will comprehend it not.

In the early period of christian dispensation, the Clergy, the great lights of the catholic church, acted successfully on this principle; though they did not, in the existing social condition, extend it in its application, so far as we can do. They carefully guarded and preserved the learning of the times in which they lived, and, by the establishment of Institutions of learning and religion, helped to keep both, in their intimate association, alive on the earth. They carefully preserved the Greek and Roman classics, the Pandects of Justinian, the Hebrew copies of the Old Testament, and the Greek of the New Testament. Thus it happened, through them, that Classical learning could revive, and that "the public reason of the Romans" could be silently and studiously transfused into the public institutions of Europe, and the study of the Bible could become general. In many an Abbey and University, the lamp of learning, trimmed by their hands, burned brightly, illuminating a wider or a narrower circle, and sending down its cheering light to our times. Honor to whom honor is due. Let all honor be paid to the Catholic church,

as the conservator and promoter of learning and religion. When darkness covered the earth like a flood, during the mediæval centuries, that church was the ark which saved for us the learning and religion of the old world. All thanks to the bright example of her heroic missionaries; for the recorded lives of those eminent saints, who through the long centuries, bore the mingled fruits of learning and holiness, for such as "Pascal who was all reason," and for such as "Fenelon who was all love."

My second argument is derived from *the nature of Protestantism*.

*The right of private judgment*, in opposition to human claims to a dictatorial authority, in matters of faith, is an essential article in the protestant faith. Now this single fact, that we are to call no man master, is assumed on the ground that the followers of Christ are capable of forming, from the Bible, an opinion for themselves; and in order to form this opinion for themselves, from the study of the bible, they ought at least to be able to read the bible. For how can a man, in the exercise of the right of private judgment, form a correct judgment except on a correct basis, and how can he have a satisfactory factory basis in the bible, unless he understands that bible?

Besides the acknowledged advantages which they enjoyed in the Catholic church, some of the first reformers desired to enjoy this right of private judgment. They wished to escape from the heavy hand of authority by which they felt themselves humiliated. They were opposed to what was called *carbonaria fides*, "the Collier's faith," or implicit faith. A Collier being asked what he believed on a certain point, replied, "I believe as the church believes." And being asked what the church believes, he replied, "The church believes as I believe." And being asked again what he and the church believe, he replied, "The church and I believe the same thing."

Leading protestants, in opposition to this *carbonaria fides*, undertook to have a faith of their own, and to be able to state the grounds of their faith. In the language of Chillingworth, "the bible, the bible is the religion of protestants." In adopting this for their motto they virtually declared that the common people ought to be elevated to such a level in the scale of mental cultivation, that in the exercise of the right of private judgment in the formation of their opinions from the bible, they would not "wrest it to their own destruction."

The contest on the subject at issue, between Luther and his allies on the one hand, and the Pope and his Cardinals on the other, was like the battle between the gods, as described by Homer, or the battle between angels, as described by Milton. There was great intellec-

tual power and great learning on both sides; and it required intellectual cultivation to judge of the merits of that controversy. Luther translated the bible; but of what use would that be, unless the people could read that translation? Luther, Melanthon and Carolus Stadius, all men of great learning, delivered lectures in the University of Wittemburg, which helped to enlighten the people and give currency to his doctrines. The revival of classical learning near that time contributed largely to the same effect.

In like manner the Protestant religion of England was permeated with learning, which the Episcopal church there have zealously promoted ever since they took possession of the Catholic schools and universities. Indeed, the leading protestants throughout Europe had been highly educated in the Roman Catholic schools, and were thus disposed to imitate and surpass them in the establishment of such institutions.

Accordingly, in protestant regions, schools of learning soon shone forth on the earth, thick-set as the stars in the sky above. Voetius, a learned protestant, boasted that while in the ten catholic provinces of Belgium there were only two universities, in the ten protestant provinces there were sever.

It is true that what is now understood by popular education was not then thought of as practicable. The Reformers seem not to have supposed it possible that the delights and advantages of learning could be brought down to the lowest stratum of the population. But they adopted principles and measures that are now operating in Germany in the education of the masses, and which justify the clergy here in promoting popular education by direct and efficient means.

My third argument is derived from *the nature of Puritanism*.

Besides the general principles of christianity and of protestantism, the puritans adopted the opinion that the people are capable of *self-government*, both in their civil and in their ecclesiastical polity. This opinion implied that the people should be qualified, by education, to perform the duties involved in self-government. Accordingly, as soon as their circumstances would allow, like the catholics, like the protestants, they adopted measures, both in England and in this country, to establish schools and colleges, under the direction of their learned divines. These had generally been educated in the universities of Oxford and Cambridge. In eleven years after the settlement of Massachusetts, they laid the foundation of Harvard College, to the support of which Connecticut annually contributed. In seventeen years, they established a system of common schools. The clergy, as is

well known, were active in establishing and sustaining these institutions in Massachusetts. As advisors, as patrons, as teachers and visitors, they exerted a controlling and salutary influence.

Without going into an induction of particulars, it is sufficient for my purpose here to say, that the whole history of the puritans shows abundantly, that they have been staunch believers in the value of local law. They have believed that a Church can govern itself better than any outside person or body can govern it; that a Town can govern itself better than a colony or a State can govern it; that the Colony can govern itself better than parliament can govern it; that a State can govern itself better than congress can govern it. But in order to this successful self-government, in these several circles of power, they have also believed that the people must be educated in the school of Christ, and at least, in common schools. On this same belief, the clergy have acted earnestly and efficiently.

Listen to the prayer made by Eliot, the Apostle John, in a synod of ministers in Boston; "Lord, for schools everywhere among us! That our schools may flourish! That every member of this assembly may go home and procure a good school to be encouraged in the town where he lives! That before we die we may be so happy as to see a good school encouraged in every plantation of the country." This was the spirit of the early ministers, and their conduct was in accordance with their spirit.

My fourth Argument is derived from *the nature of the profession* into which ministers have entered.

The object of that profession is to raise the souls of men from their earthly condition into union with the divine nature, that they may thus become the intelligent, and holy, and happy inhabitants of earth and of heaven; to raise them from the power of appetite and passion into the dominion of reason and conscience. This the minister endeavors to accomplish by commanding to them the truths of God's holy word illustrated by the teachings of his providence.

In like manner it is the object of popular education to raise men in the scale of knowledge, virtue and happiness, that they become good citizens; to elevate the tastes of the young from sensuality, from the bar and the brandy saloon, from the haunts of loafers and gamblers, into the love and the pursuit of the true, the good and the beautiful. Thus the minister and the educator are largely aiming at the same thing; though the motives employed by the former are always supposed to be chiefly drawn from a higher world, and the motives employed by the latter may be chiefly drawn from

this. The christian minister has, then, every encouragement to act strenuously for the promotion of popular education, with the full belief that while he is promoting that, he is at the same time promoting the object of his own profession.

The minister and the school master are fellow laborers in the same field. The field is the world. When "the school master is abroad," let the minister go forth to meet him and join himself to him as a fellow laborer. Let them encourage each other and bear each other's burdens, both looking forward to "the harvest home," when they shall bring their sheaves with them.

My fifth Argument is derived from *the position occupied by the Clergy of Connecticut during more than two hundred years.*

From the early legislation of the Colonies it appears, that a reason given why schools should be supported, was, namely: that the young could in them be so taught that they would be able to "read the bible" and the "capital laws," and thus be "fitted for service in the church and commonwealth." In the order to establish a free school in 1641, in New Haven, "Our pastor, Mr. *Davenport*," is mentioned with the magistrates, as a committee "to consider what yearly allowance is meet to be given out of the common stock of the town," for the support of the school; and also, "what rules and orders are meet to be observed in and about the same." And, in 1644, the General Court ordered that a grammar school be set up and appointed, and that the "Magistrates and the Teaching Elders" be a committee to attend to that, for the same purposes as in the case of the first mentioned or common school. It appears that Governor Eaton and Mr. *Davenport* were the active men in thus establishing a system of free schools in the Colony.

And after the Colonies were united, the General Court, in 1690, ordered as follows: "This Court considering the necessary and great advantage of good literature, do *order and appoint*, that there shall be two good free schools kept in this Colony, for the schooling of all such children as shall come there after they can distinctly read the psalter, to be taught reading, writing, arithmetic, the Latin and the English languages, the one at Hartford, the other at New Haven, the masters whereof shall be chosen by the magistrates and the *ministers* of the said counties, and shall be inspected and displaced by them, if they see cause." These were grammar schools, after the model of the *free*, or endowed grammar schools of England, in which the Latin and the English languages were to be taught grammatically.

While I thus notice the prominence that was given to the clergy in the establishment of free schools, it should be mentioned that by the original Constitution of Connecticut the "supreme power of the Commonwealth," was lodged in the General Court, which for a long time afterwards gave prominence to the clergy in all matters connected with education.

It should be added that the SCHOOL MASTERS were treated with great consideration from the first. They were among the few at the first, who received the title of "Mr." and not that of "brother," or "good man." The school master stood next to the minister in the minds of the people; just as he does in Goldsmith's inimitable description in "*The Deserted Village*":

"And still they gazed, and still the wonder grew,  
That one small head could carry all he knew."

He was on familiar terms with the minister, and often derived important aid from him in the government and instruction of his school, and kept him informed as to the proficiency of individual pupils. It is a tradition, that a school master in Guilford from time to time informed the minister, the Rev. Joseph Elliott, that his son, afterwards the celebrated Jared Elliott, was not making much proficiency in his studies. On one occasion, when carrying his book to school, Jared let it fall into the water, and when standing by the fire to dry it, he let it fall into the fire. Upon being reprimanded by the master, he replied, "I believe my book is a lunatic, it is oft in the fire and oft in the water." The school master, as soon as the school was dismissed, hastened to the minister to say to him, "Jared will make a man after all."

Many of the school masters in the principal towns, one at least in each town, made teaching their principal employment through the year, namely, such as Cheever, and Tisdale, and Jones. Other intelligent men taught school in winter, and managed their farms in the summer; one of these, who was born in 1727, told me that, in this way, he taught school thirty years. Others, chiefly young men, often the flower of the town, well educated for the times, and from good families, taught school for a few winters, until they were married. Females, called school mistresses, and school dames, taught the small schools in the summer. Clergymen often taught select schools in the winter, for the older youth in their congregations.

Among these teachers there were indeed those who were but poorly qualified for their employment. Some such are described by John Trumbull, in his "*Progress of Dullness*":

"He tries, with ease and unconcern,  
To teach what ne'er himself could learn ;  
Gives law and punishment alone,  
Judge, jury, bailiff, all in one ;  
Holds all good learning must depend  
Upon the rod's extremest end,  
Whose great electric touch is such,  
Each genius brightens at the touch.  
With threats and blows, excitements pressing,  
Drives on his lads to learn each lesson ;  
Thinks flogging cures all moral ills,  
And breaks their heads to break their wills."

But there were other school masters who led their pupils gently up the hillside of learning, bearing their burdens, sympathising with their difficulties, and by kind looks, kind tones, and winning ways, gaining their hearts. They did for them what Aristotle did for Alexander the great, who, in return, said, he loved him better than he did his father Philip, for the "latter was only the father of his body, but his teacher was the father of his mind." They did for them what Mr. Elmer, her teacher, did for Lady Jane Grey, who, she said, "taught me so gently, so pleasantly, with such fair allurements to learning, that I think all the time nothing, while I am with him, and when I am called from him, I fall on weeping, because, whatever I do else, but learning, is full of grief, trouble, fear, and whole misliking unto me." I could mention the name of a Connecticut school master, who in 1782 taught a select school. About fifty years afterwards, a pupil in that school made a journey of many miles to see him, and thank him for his counsels and instruction, bestowed upon him when he was only eight or ten years of age.

What a beautiful letter Daniel Webster wrote to his old school master, July 20th, 1852, the last year of his life! "MASTER TAPPAN, I hear, with much pleasure, through the public press, that you continue to enjoy life, with mental faculties bright and vivid, although you have arrived at a very advanced age, and are somewhat infirm. I came to-day, from the very spot in which you taught me; and to me a most delightful spot it is. The river and the hills are as beautiful as ever. But the graves of my father and mother, and brothers and sisters, and early friends, give it to me something of the appearance of a city of the dead. But let us not repine. You have lived long, and my life is already not short; and we have both much to be thankful for. Two or three persons are still living, who, like myself, were brought up, *sub tua ferula*. They remember 'Master Tappan.'

And now, my good old master, receive a renewed tribute of affec-

tionate regard from your grateful pupil; with his wishes and prayers for your happiness, in all that remains to you of this life, and more especially, for your rich participation, hereafter, in the more durable riches of Righteousness.—Daniel Webster.” Mr. Webster was born January 18, 1782. This letter is a beautiful picture of the feelings entertained by ingenuous children, for good school masters in the last century.

For a long period the only two Books in common use in district schools, were, first, the “*New England Primer*,” which was an equivalent, among the puritans here, for a small prayer book, called the “Primer” among the Roman Catholics. This, with its frontispiece of John Rogers in the flames, and his wife and nine children looking on, excited in the mind of the young child while learning its first lesson, the deepest sensibility. There was in it the beautiful cradle hymn of Watts, appealing, as it does, to the highest sentiments of our nature; and the shorter catechism, to be committed to memory and repeated every Saturday.

The other book was the “*Psalter*,” namely, the book of Psalms printed separately. This also was an equivalent for a certain Roman Catholic book so called.

*Arithmetic* was taught in these common schools, the teacher only having a book, and writing the sums for the pupils, and showing him how to do them. *Sewing* was taught by school-dames.

*Writing* was also taught, the teacher writing the copy and handing it to the pupil with the question, “Can you read your copy?”

At a later period, “*Dilworth’s Spelling Book, or New Guide*,” published 1740, was introduced. He was an Englishman, and died in England, 1781. His book was for a time in common use. Trumbull alludes to it thus, in 1772 :

“ Our master says, (I’m sure he is right,)  
There’s not a lad in town so bright,  
He’ll cypher bravely, write and read,  
And say his catechism and creed,  
And scorn to hesitate or falter,  
In Primer, *Spelling Book*, or *Psalter*.”

His “*School Master’s Assistant*,” an arithmetic, was published, after his Spelling Book had been well received, in 1743, and was dedicated to “*The Reverend and Worthy School Masters in Great Britain and Ireland*.” School masters in Connecticut used this book in their schools. The sums given out were often cyphered at home in the evening. Classes were also taught by the master in the evening, for which a small stipend was given.

In 1784, *Webster's Spelling Book* began to replace Dilworth's, though with some opposition. "*Dilworth's Ghost*" was written to deter the people of the State from the change. Webster's book was entitled, "*The First Part of the Grammatical Institute of the English Language*. This book, I have heard him say, was introduced into the schools of Connecticut through the influence of the clergymen of Connecticut; though it was highly recommended by others. After this, the "*Second Part*" in the series, was introduced, which was published in 1790. This was a *grammar*. After this, the "*Third Part*" in the series, was introduced. It was a reading book, and was published in 1792. "*Dwight's Geography*, began to be used in the schools of Connecticut, in 1795. It was prepared by Nathaniel Dwight, a brother of Timothy Dwight. Morse's *Geography* was also used, more or less, soon after its publication.

The first clergymen of Connecticut were educated, many of them, at the Universities in England, and had enjoyed intercourse with the learned and polished clergymen of the Episcopal Church there. As we see them now on the canvas, in their wigs, and bands, and gowns, we are impressed with the belief that they were gentlemen. Their manners were grave, dignified and courteous, and they were regarded by the school-masters, and gentlemen, and all of the people as the models of *good manners*. Thus it long continued the case with their successors in office. In the schools in the Colony of Connecticut, it was expected that not only learning, and religion, and morality should be cultivated, but also **GOOD MANNERS**, in opposition to clownishness on the one hand, and rowdyism on the other. The pupils were expected to bow or courtesy, or, in other words, to make their *manners* when they entered the school, and when they left it; and when they began the recitation, and when they retired. They were taught to address the teacher with the title of "Master." They were taught to show respect to age, and station, and moral worth; to take off their hats when they met respectable persons, as the ministers and principal men were accustomed to do. This regard for *minor morals*, carried out in many particulars, prevailed in Connecticut for something like two hundred years. By thus cultivating the sentiment of politeness in the young, their hearts became better, socially, and good manners became common law.

In some of the acts of the General Court the "**GOVERNMENT**" of schools is spoken of as if it were as important as instruction. In those days children were expected to be *governed*, not coaxed. This government, in those times, is described as being unreasonably severe.

So it was, judged of by our own standard. But in those times there was, in many places, a high type of discipline in the church, in the family, and in the town. They or their fathers had left England in order that they might have a purer church, and how could they have a purer church without discipline? Parents, in those days, had large families; Dr. Johnson malignantly said of them, that "they multiplied with the fecundity of their own rattlesnakes." Besides, the Pilgrims had left Holland that their children might not be corrupted. Large families require stricter discipline than small ones. In the town, the whipping-post was a standing proof of the importance attached to discipline. The same doctrine prevailed in the schools, as it also did in the English schools. Ministers, too, were full believers in the doctrine, that "the rod and reproof bring wisdom." Accordingly the rod was used, and the ferule, and the block of disgrace, a sort of "stool of repentance," on which the culprit sat, until he was willing to submit to the rules of the school.

But the clergy of Connecticut exerted a **MORE DIRECT INFLUENCE** in favor of popular or universal education in the State. Having themselves, most of them, been trained, when young, in common schools, a large number of them became teachers in them or in select schools, during their college course or afterwards. Numbers of them, when settled, kept school in their own houses, for the young people of their congregations. Clergymen founded Yale College, and for more than one hundred and fifty years have controlled it, and presided over it. For one hundred and thirty years a large part of the students of the State, educated in it, were fitted for college by clergymen. When I concluded to go to college I applied to Dr. John Elliot to fit me for Yale. He told me that he "felt under the same obligation to lend his aid in fitting young men for college that he did to preach the Gospel."

Clergymen were on the committee for the examination of school-masters, and the inspection of schools. They visited the schools, at least at the commencement of the season, and at the close. In this way they became acquainted with the comparative merits of the several schools, and of the several teachers, and of the several pupils. They made the condition and importance of the schools one of their common topics in conversation, alluded to schools often in their sermons, and in their public prayers on the Sabbath, they would say, in respect to them and the college, "cast the salt of Divine Grace into these fountains, that the streams, that annually flow from them, may make glad the city and the church of our God." For a long time

the town was the parish, and the town schools were the parish schools, which the minister felt, officially, bound to foster. And in doing this they were often rewarded, even while living, with the gratitude, the love, and the confidence of three generations. And when such a one died, great lamentation was made over him. And when carried to his grave, he was mourned by the fathers, and the children, and the children's children, as one who had taught them how to think as men, how to act as Christians, and how to behave as gentlemen; as a light-bearer, who had held for them the torch of knowledge, in the meeting-house; in the school-house, and in the dwelling-house; a torch which some of them were ready to seize and hold up in turn in the church, in the school, and in the family. To these ministers, we sons of Connecticut, owe something more than gratitude; we owe them undying affection as our spiritual and educational forefathers.

In the minds of the early clergymen of Connecticut, the church and the school—the *meeting-house* for the one, and the *school-house* for the other—were closely associated. In the early settlement of a town, as soon as the meeting-house was erected, if not sooner, the school-house was built, *near* the meeting-house, the one a symbol of learning, the other of religion. When the minister was settled, the school-master was sure to follow to establish his little seminary, from which the church was to be supplied with intelligent members, and the town with intelligent inhabitants.

With the type of the old Connecticut school-house, which replaced the one constructed of logs, and its slender appointments, many are acquainted, as some such are still standing. There was the large chimney, often on the north end, with its large fire-place, before which the children could warm themselves when they came in, or after shivering on the outer circle of benches. On one side of the chimney was a small entry, and on the other, was a small apartment for the hats, or buff caps, and bonnets, and which served the purpose of a prison, in which were confined disobedient and refractory children. Long benches, without backs, on which the children sat, and thus learned to sustain themselves.

Having been confined in the school from nine o'clock until about eleven, and from one until about three, they, at the notice of the master, hastened to the play-ground fresh from the "constraint that sweetens liberty." Here they con'ended with each other in feats of agility and strength. They were encouraged to wrestle and to run well, because they might have to wrestle with the Indians in battle,

or to run with them, for escape or for capture. Accordingly some of them emulated the strength of Jacob, who wrestled with the Angel, and some, the fleetness of Asahel, who "was as light of foot as a wild roe."

And when, perchance, some well-known person was passing, the word would come out from some of them, that parson—or squire—or doctor—or deacon—was coming. Immediately they would leave their play for a moment, take off their hats, or caps, and then resume their play. This ready act of civility, they would pay with a conscious sense of politeness,—with a "proud submission," which raised them in their own estimation. They had been taught in the church, in the family, and the school, to respect what is respectable, and to "do their duties to superiors, inferiors and equals."

It should be added that in the settlement of the country towns, before the districts were weakened by being divided, the schools were often large. "The boys came to school in the winter, the only season in which schools were usually open, from distances of several miles, wading through the snow, or running upon the crust, with their curly heads of hair often whitened with frost from their own breath."

**VISITATION DAY**, in the spring, when the inspectors visited the schools, was a great day in the district. The minister and some of the principal men were present. The school-master was in his glory, now that others had come to magnify his office. Many of the parents were present. The inspectors were interested to behold the "*spem gregis*," the hope of the church and the town. The psalter was read by the older children, and the primer by the younger ones. The writing books and the arithmetic books were handed round. In later times, lessons in spelling from the spelling book were put out. The catechism was recited. The inspectors made their remarks, particularly the minister, upon the proficiency of the school, the manners, the morals, the religion. A prayer was then made by the clergy, in which these several topics were alluded to.

It should be added that a prayer was made by the school-master in a portion of the schools, at nine o'clock, when the school came together in the morning, and at four. In other schools, a prayer was made only at four, when the school was dismissed.

On this subject, listen to the language of President Timothy Dwight: "Of learning and the general diffusion of useful knowledge, the clergy as individuals, have, beyond any other class of men, been the promoters. To this, their own knowledge, the general

the town was the parish, and the town schools were the parish schools, which the minister felt, officially, bound to foster. And in doing this they were often rewarded, even while living, with the gratitude, the love, and the confidence of three generations. And when such a one died, great lamentation was made over him. And when carried to his grave, he was mourned by the fathers, and the children, and the children's children, as one who had taught them how to think as men, how to act as Christians, and how to behave as gentlemen ; as a light-bearer, who had held for them the torch of knowledge, in the meeting-house ; in the school-house, and in the dwelling-house ; a torch which some of them were ready to seize and hold up in turn in the church, in the school, and in the family. To these ministers, we sons of Connecticut, owe something more than gratitude ; we owe them undying affection as our spiritual and educational forefathers.

In the minds of the early clergymen of Connecticut, the church and the school—the *meeting-house* for the one, and the *school-house* for the other—were closely associated. In the early settlement of a town, as soon as the meeting-house was erected, if not sooner, the school-house was built, *near* the meeting-house, the one a symbol of learning, the other of religion. When the minister was settled, the school-master was sure to follow to establish his little seminary, from which the church was to be supplied with intelligent members, and the town with intelligent inhabitants.

With the type of the old Connecticut school-house, which replaced the one constructed of logs, and its slender appointments, many are acquainted, as some such are still standing. There was the large chimney, often on the north end, with its large fire-place, before which the children could warm themselves when they came in, or after shivering on the outer circle of benches. On one side of the chimney was a small entry, and on the other, was a small apartment for the hats, or buff caps, and bonnets, and which served the purpose of a prison, in which were confined disobedient and refractory children. Long benches, without backs, on which the children sat, and thus learned to sustain themselves.

Having been confined in the school from nine o'clock until about eleven, and from one until about three, they, at the notice of the master, hastened to the play-ground fresh from the "constraint that sweetens liberty." Here they contended with each other in feats of agility and strength. They were encouraged to wrestle and to run well, because they might have to wrestle with the Indians in battle,

or to run with them, for escape or for capture. Accordingly some of them emulated the strength of Jacob, who wrestled with the Angel, and some, the fleetness of Asahel, who "was as light of foot as a wild roe."

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On this subject, listen to the language of President Timothy Dwight: "Of learning and the general diffusion of useful knowledge, the clergy as individuals, have, beyond any other class of men, been the promoters. To this, their own knowledge, the general

nature of their office, and their comparative leisure from the busy occupations of life, almost necessarily lead. In the foundation and the regulation of no small number of our schools, they are directly concerned as principals. To our college they gave birth, continuance, a considerable proportion of its property, and the whole system of its government and instruction. They have supported and educated more scholars of charity, than the whole community besides; nor is there at this time, unless I am deceived, a single school of consideration in the State, in which they have not a principal agency."

Thus the meeting-house was the center of illumination for the town, and the school-house was the center of illumination for the district. The lights in both were steady, irradiating the whole surface of the State, like the lights which on some evenings illumine all the northern sky. This was before the cunning artificers of the press sent up their fireworks to dazzle by their glare and mislead. It was the influence of these steady lights that made Connecticut **THE LAND OF STEADY HABITS**; a model commonwealth, where, from the cultivation of the arts and sciences, from the general diffusion of knowledge, the people have in the exercise of the right of private judgment, pursued a wise policy in their public acts, and in the administration of their own private and local affairs.

It would exceed my limits to show forth the great results of the educational efforts of the clergy of Connecticut. These would have to be sought not only in the territorial limits of the State, but throughout our broad country, wherever the emigrating sons and daughters of Connecticut have fixed their habitation.

Thus, my dear sir, have I endeavored, briefly to show, that the ministers of the gospel ought to take a prominent part in popular education; from the nature of the Christian religion; from the nature of Protestantism; from the nature of Puritanism; from the nature of their own profession; from the position long occupied by clergymen. In doing this, they ought to be encouraged by the towns, as they were formerly.

*How* they should do this, I do not presume to say. Each of them has his own gift; each his own circumstances. They have that wisdom in the selection of means, which is profitable to direct.

Very respectfully, your obedient servant,

WILLIAM C. FOWLER.

P. S.—Your very valuable Report of 1853, when you were Superintendent of Common Schools in Connecticut, renders it unnecessary that I should enlarge my statements on certain topics of interest.

## II. THE GRAMMAR SCHOOL.\*

BY CHARLES HOOLE, A. M.

Master of Grammar School in Rotherham in 1636, and of a Private School in London in 1660.

CHAPTER I.—*How to help children that are imperfect in reading English when they are brought to the grammar school, and how to prepare them for more easy entrance upon Latin.*

The want of good teachers of English in most places where grammar schools are erected, causeth that many children are brought thither to learn the Latin tongue before they can read well; and this chiefly, to prevent their loss of time with those that can teach them no further.

Now such scholars for the most part become the greatest disgrace to the master of all the rest, partly because indiscreet and illiterate parents, (I will not say servants,) that can scarcely read English themselves, become too severe judges of his work, and partly because he seems to some to undervalue himself by admitting petties into his school. But for the toil and trouble that he hath in teaching such, I rather seek how to remedy it, than go about in words to express it.

To help therefore that defect of reading English aright, you may take this as the most useful course:—

1. Let them read a chapter every morning and every noon in the *New Testament*, and at ten and four o'clock, a piece of the *Accidents*, which will require (at least) a quarter of a year to be read over, in case the children be very imperfect; but in case they be any whit ready, it may be gone over in six weeks' time.

2. To exercise their slender memories at their first coming to school, and to find them some little task, (to which they should be inured at the first, that they may not take it more hardly afterward,) let them commit to memory some few staves of such psalms in meter as you in your discretion shall think best to suit with their shallow apprehensions. Psalma i., iv., xii., xv., xix., xxv., xxxiv., lxvii., c., ciii., civ., cxix., are excellent for this purpose.

\* The following is a copy of the original title page:—

THE  
USHER'S DUTY,  
OR  
A PLAT-FORME  
of Teaching  
LILLIES Grammar.  
By C. H.  
LONDON,  
Printed by F. T. for Andrew Crook,  
at the Green Dragon in Pauls  
Church Yard, 1659.

That they may be more perfect in their lessons before they come to say them,

1. It were good if you did now and then read a piece for their imitation, observing the just and full pronunciation of each syllable, and making pauses as they come.

2. But especially as they sit in their form, see that every one after another read the lesson twice or thrice over, (the highest, because the most able, beginning to read first,) and cause that every one attend to what is read, looking constantly upon his book, and let them have liberty (who can soonest) to correct him that readeth any word amiss, and to note it as his mistake. But in this a care must be had that they make no noise nor disturbance to the rest of the school.

3. When they come to say it, let every one in that order you shall appoint (beginning either with the highest or lowest, or otherwise) read the whole lesson, or a piece of it, as the time will best permit you to hear them, and when the lesson is gone over often enough, you may propound a familiar and short question or two out of it, thereby to make somewhat of its meaning stick in their memories, and dismiss them to their places to ask one another the like.

But because the *Accidents*, as it is now printed, (especially that part of it which concerneth the conjugating of verba,) is too full of difficult abbreviations for most children to read, or some masters (that undertake it) to teach, I have found a great advantage and ease by making use of the examination of the *Accidents* before I put them to read the *Accidents* itself, especially with some more dull-witted boys that I could not otherwise fasten upon, and the way I used it was this: I caused

1. That children should read over only the first part of it, which concerneth the introduction of the eight parts of speech, by taking so much at a time as they could well be able to read and belonged to one or more particular heads of grammar. Thus in the first going it over, I made them acquainted with the usual terms of grammar art, so as to be able (at least) to turn to a noun, pronoun, verb, &c., and to what belongs to them, as the numbers, cases, persons, moods, &c., and to tell how many there are of each.

And in the second reading it over, I taught them to take notice what every part of speech is, and how it differs from others, and what things belong to every one of them. And this I did by English examples, which best help to instruct their understandings in the meaning of what they read, and confirm their memories to keep it. Ex. gr., having showed them in their book, that a noun is the name of a thing, and that it is substantive or adjective, and hath numbers, cases, genders, declensions, and degrees of comparison, I instance several words, as a *horse*, of *men*, *sweet honey*, with *sweeter words*, and let the children who can readilest tell me what belongs to them. This is (as Mr. Woodward very well expreßeth it in his *Light to Grammar*, chapter 2) "To teach a child to carry a torch or lantern in his hand, that thereby the understanding may do its office and put to memory to do hers; to slip into a child's understanding before he be aware, so as he shall have done his task before he shall suspect that any was imposed; he shall do his work playing, and play working; he shall seem idle and think he is in sport, when he is indeed seriously and well employed. This is done (saith he) by precognition, for it conveys a light into the understanding which the child hath lighted at his own candle."

Now forasmuch as the way of working hereby is, when the inward senses of the child are instructed by the outward, and the more help one hath of the outward, the surer and firmer the instruction is within, I can not but here give notice of Mr. Comenius' *Orbis Pictus* as a most rare device for teaching a child at once to know things and words by pictures, which may also serve for the more perfect and pleasant reading of the English and Latin tongues, and entering a child upon his *Accidents*, if the dearness of the book (by reason of the brass cuts in it) did not make it too hard to come by.

But where the book may be readily had, (as who would not bestow four or five shillings more than ordinary to profit and please a son?) I would advise that a child should bring it with him at his first coming to a grammar school, and be employed in it, together with his *Accidents*, till he can write a good legible hand, and then a master may adventure to ground him well in orthography and etymology, by using that book according to the directions already given in the preface before it, and causing him every day to write a chapter of it in English and Latin.

He that would be further instructed how, by teaching English more grammatically, to prepare his scholars for Latin, let him consult Mr. Poole's *English Accidents* and Mr. Wharton's *English Grammar*, as the best books that I know of at present for that purpose.

II.—*How to teach children in the first form the grounds or rudiments of grammar contained in the Accidents, and to prepare them for the Latin tongue with ease and delight.*

Being here to deliver my mind concerning entering little ones, by way of grammar, to the Latin tongue, (a matter which I may truly say hath, ever since I began to teach, cost me more study and observation than any one point of my profession, and the more, because I see few able schoolmasters vouchsafe so far to unman themselves as to mind it,) I desire three things may be considered by all that go about to enter children to grammar learning, viz., that

1. There is a great difference betwixt a man that teacheth, and a child that is to be taught; for though I do not altogether hold with him that sayeth a man in his childhood is no better than a brute beast, and useth no power but anger and concupiscence, nor take upon me here to dispute whether a child learneth more by rote than by reason, yet this I dare aver, that the more condescension is made to a child's capacity, by proceeding orderly and plainly from what he knoweth already to what doth naturally and necessarily follow thereupon, the more easily he will learn. A man therefore that hath the strength and full use of reason, must conduct his young learner to follow him in a rational way, though he must not expect him to go, *ex quis passibus*, as fast as himself. And forasmuch as a child is tender, a man must abate of his roughness; seeing a child is slow of apprehension, he must not be too quick in his delivery; and seeing a child is naturally awkward to his work, he must not be too passionate if he do amiss. Tully's observation is, that *Quo quis doctior est, eo iracundius docet*; and Mr. Mulcaster gives notice that there is a number of discoursers that can say pretty well to a general position, but show themselves altogether lame in the particular applying of it, which is a thing that attendeth only upon experience and years. He would therefore (and that rightly) have a trainer of youth reclaimed unto discretion, whose recommendation Aris-

to the placeth in the skill of specialties. And I would advise him that hath to deal with a child, to imitate the nurse in helping him how to go forward, or the gardener in furthering the growth of his young plant. *Est et hac summi ingenii maxima infirmitas non posse descendere*—Tall wits, like long backs, can not abide to stoop—saith a teacher of eloquence; but whosoever is a schoolmaster, and would do his duty as he ought, must account it a point of wisdom to descend to a child's capacity, be it never so mean. How have I delighted to see an artist (I mean a watchmaker or the like) spend an hour or two sometimes in finding a defect in a piece of work, which he hath afterward remedied in the turning of a hand; whereas, a more hasty workman hath been ready to throw the thing aside, and to neglect it as good for no use. Let the master ever mind where a child sticks, and remove the impediments out of his way, and his scholar will take pleasure that he can go on in learning.

2. There is a great disproportion betwixt a child's capacity and the *Accidents* itself. Children are led most by sense, and the grammar rules, consisting in general doctrines, are too subtle for them. Children's wits are weak, active and lively, whereas, grammar notions are abstractive, dull and lifeless; boys find no sap nor sweetness in them, because they know not what they mean, and tell them the meaning of the same rule never so often over, their memories are so waterish, that the impression (if any were made in the brain) is quickly gone out again. He runneth on space and mindeth nothing so much as play; and it is very hard to teach a child in doing a thing to heed, much less to judge, what he doth, till he feel some use of reason; in the meantime, he will profit more by continual practice and being kept still (as he loves to be) doing, than by knowing why and being called upon to consider the causes wherefore he doth this or that.

Besides, it will clearly appear to any that shall but mind the confused order (especially of the verbs) and the perplexity of some rules and examples, that that book was rather made to inform those of riper years, who knew something of Latin before, of the reasons of what they knew, than to direct little ones (as we now do) to use it as a rule about that whereof they are ignorant altogether.

3. It is one thing to learn the Latin tongue, or any other language, and another to learn the grammar as a guide to it, or a means to attain the reason of it. We see how readily children learn to speak true and proper English, (and they may also do the same in Latin,) by daily use and imitation of others, long before they are able to apprehend a definition of what grammar is, or any thing else concerning it; and the reason is, because the first is a work of the imagination and memory, which are apt to take and keep impressions, having the senses to help them, but the other belongs to the understanding, which for want of the strength of reason to assist it, is hard to be wrought upon in a child, and till the memory and understanding go hand in hand, a child learns nothing to any purpose. Hence, it cometh to pass, that grammar learning (as it is now generally used) becometh a work of more difficulty and discouragement, both to master and scholar, than any study or employment they undertake, and that many have striven to contrive more facile grammars for their scholars; whereas, indeed, the right and constant use of any one that is complete, so as to handle the *subjectum totale* of the art, doth easily reduce all others to itself, especially after the language is somewhat gained.

These things thus premised, I conceive it very necessary for all such as un-

dertake to teach grammar to little children, to cherish and exercise those endowments which they see do show themselves most vigorous and prompt in them, be they memory, fancy, &c., and to proceed orderly and by degrees, (for so nature itself doth,) that they may be able to hold pace with their teachers, and to perceive how they themselves mount higher and higher, and at every ascent to know where they are, and how to adventure boldly to go forward of themselves. And forasmuch as the *Accidents* is generally made use of as an introduction to Latin grammar, (which of itself is but a bare rule, and a very naked thing, as Mr Mulcaster hath well observed,) and it is one thing to speak like a grammarian, and another thing to speak like a Latinist, (as Quintilian hath noted,) it is fit that both the *Accidents* and the Latin tongue together should be brought within children's reach, and made more familiar unto them than formerly. And how this may be done even with those of seven years of age, or under, I shall now go on to discover according to what I have tried, and do still every day put in practice. But this I require beforehand, (which Mr. Mulcaster also wished for,) that a child may have his reading perfect and ready in both the English and Latin tongues, and that he can write a fair hand before ever he dream of his grammar; for these will make him so that he shall never complain of after difficulties, but cheerfully make a wonderful riddance in the rest of his learning.

The commonly received way to teach children the first rudiments of Latin speech is, to put them to read the *Accidents* once or twice over, and then to let them get it without the book by several parts, not respecting at all whether they understand it or not. Thus they spend two or three years (for the most part) in a wearisome toil to no purpose, not knowing all the while what use they are to make of their book, nor what the learning of such a multitude of rules may tend to; and in the interim of getting the *Accidents* by heart, (if great care be not taken,) they lose that ability of reading English which they brought from the Petty School, and this makes the parents cry out against learning Latin, and complain of their children not profiting at the grammar schools, whence they are therefore sometimes taken and sent back again to a mistress or dame to learn English better. The conscientious master all the while striving to the uttermost of his strength and skill to preserve his credit, and not knowing well how to remedy this mischief otherwise than by hastening on the children in this common road, doth overtoil (if not destroy) himself, and discourage (if not drive away) his scholars by his too much diligence.

Having, therefore, made sure that the little scholars can read very well and write plainly beforehand, put so many of them as are well able to hold pace together into one form, and begin to teach them their *Accidents* in an understanding manner thus:

1. Give them a glimpse or insight into the introduction or first part of it, by dividing it into twelve parts, and making them to take notice of the chief heads in every one; whereof the first may be, concerning the eight parts of speech, of a noun and its kinds—numbers, cases and genders.

The second, of the declensions of nouns' substantives.

The third, of the declining of adjectives and their comparison.

The fourth, of a pronoun.

2. The fifth, of a verb and its kinds—moods, gerunds, supines, tenses, persons and conjugations.

The sixth, of the conjugating of verbs in *O*.

The seventh, of the verb *sum*.

The eighth, of verbs in *OR*.

The ninth, of verbs irregular, as *possum*, &c.

The tenth, of a participle.

The eleventh, of an adverb.

The twelfth, of a conjunction, a preposition, and an interjection.

By this means they shall know the general terms of grammar, and where to turn to any part of speech and what belongs to it in the book. As they get their parts, make them hear one another read it over in their seats as they sit orderly; as they say it, let every one read a greater or lesser share as you please to appoint, and make the rest attend to him that readeth; after they have said it, one may take the examination of the *Accidents*, and out of it ask the questions belonging to their present part, to which the others may make answer out of the words of their *Accidents*, which if they can not readily do so, he may tell them out of his book; and if you yourself sometimes examine them in the most familiar and general questions, it will help them to understand it, and sharpen their memories very much for the getting of that by heart whereof they already know somewhat.

2. When they get the introduction, *memoriter*, let them take but a very little at once, that they may get it more perfectly in a little time, and this will be a means still to hearten them on to a new lesson, but be sure that every lesson end at a full period; and that none may seem to be overcharged or hindered, let always the weakest child appoint the task, and cause the stronger to help him to perform it as he ought.

Forasmuch as your scholars' memories are yet very weak and slippery, it is not amiss to help them by more frequent repetitions, especially at the end of every part of speech, which they should examine so often over till they can answer to any thing that is in their book concerning it; then let them proceed to the next in like manner, not forgetting to recall the more general and necessary points to memory from the very beginning, and this will be a means to make them keep all fresh in mind, and to be able to tell you what part of speech any word is which you shall name, either in English or Latin, and what belongs to it, which is one main end for which the introduction was made. You may now and then exercise them in distinguishing the eight parts of speech, by giving them a period, and after they have written it out, making them to mark every word what part of speech it is by these figures, 1, 2, 3, 4, 5, 6, 7, 8.

3. But as they get the introduction by heart, and learn to answer to the questions raised out of it, an especial care and pains must be taken, ever and anon, to make them very perfect in declining nouns and forming verbs. Let them, therefore, as it were by by-tasks, get the examples of the nouns and verbs very perfectly which are set down in their *Accidents*.

Then, first, let them decline the articles severally or jointly, for by these they may know the gender, case and number of a noun, though many learned grammarians of late do leave them off as useless. *Harum musarum* was formerly, as much as to say that *musarum* is of the feminine gender, genitive case and plural number. And whereas, the rule beginneth with the genitive case, do you supply the nominative thus:

2. Cause them with every example to join the rule of the declension, and

thereby to know the due termination of every case in both numbers, saying the English sometimes before and sometimes after the Latin; the nominative case singular of the first declension endeth in *a*, as *nominativo hac musa*, a song; the genitive in *a*, as *hujus musæ*, of a song; the dative in *a*, as *huic musæ*, to a song, &c.

Let them give the bare terminations of every declension in each case in both numbers, as to say, the terminations of the first declension throughout all cases in both numbers are, singulariter nom., *a*; gen., *æ*; dat., *æ*; accu., *am*, &c.

The terminations of the nominative case singular of the five declensions are, of the first, *a*; of the second, *r*, *us*, *um*; of the third, *a*, *c*, *e*, *i*, *l*, *n*, *o*, *r*, *s*, *t*, *x*; of the fourth, *us*; of the fifth, *es*.

The terminations of the genitive case singular of the five declensions are, of the first, *æ*; the second, *i*; the third, *is*; the fourth, *us*; the fifth, *ei*, &c. And let them take especial notice of the endings of the genitive case singular, because thereby they may know of what declension a noun is when they find it in a vocabulary or dictionary.

Furnish them out of their vocabulary, or otherwise, with a store of examples for every several declension till they can readily decline any regular noun; but then especially mind them of the vocative singular of those nouns that end in *us* of the second declension, and of those that are of the neuter gender, of the second, third, or fourth declension, and what cases they make all alike in both numbers.

5. Exercise them in declining nouns so often till they can tell you at once the termination of any case in either number, in one or all of the declensions, and say on a sudden what any noun you name to them doth make in any one case of each number, in English or Latin. As, if you ask them of what declension, case and number this termination *os* is, they can presently answer, that *os* is of the second declension, accusative case and plural number; or, if you ask them of what declension, case and number *virtute* is, they can answer, that *virtute* is of the third declension, the ablative case and singular number. So in English, if you should say, *with a pen*, they can tell you it is the ablative case and singular number, and therefore must be said in Latin, *penna*. Or, if in Latin you should say, *pennas*, they can tell you it is of the accusative case, plural number, and must be said in English, *pens*, or *the pens*.

6. In declining adjectives, cause them to mind to what declension their several genders belong, and after they can parse every gender alone by itself, teach them to join it to a substantive of the same or a different declension, with the English either before or after the Latin, thus: Singulariter nominativo, *pura charta*, fair paper; gen., *purae chartæ*, of fair paper, &c. Sing. nom., *novus liber*, a new book; gen., *novi libri*, of a new book, &c. Sing. nom., *dulcis conjugis*, a sweet wife; gen., *dulcis conjugis*, of a sweet wife, &c. *Edentula anus*, a toothless old woman; gen., *edentula anus*, of a toothless old woman, &c. *Frigida glacies*, cold ice; gen., *frigida glaciei*, of cold ice, &c. *Gravis turbis*, a troublesome rout; gen., *gravis turbæ*, of a troublesome rout, &c. *Magnum onus*, a great burthen; gen., *magni oneris*, of a great burthen, &c.

7. Acquaint them well with the manner of forming the three degrees of comparison, by showing them how the comparative and superlative are made of the positive, according to the rules, and then let them decline an adjective in all the degrees together, throughout all cases and genders in both numbers, as

well in English as in Latin, thus: Sing. nom., *durus*, hard, *durior*, harder, *durissimus*, very hard; *dura*, hard, *durior*, harder, *durissima*, very hard; *durum*, hard, *durius*, harder, *durissimum*, very hard. Gen., *duri*, of hard, *durioris*, of harder, *durissimi*, of very hard, &c. Sing. nom., *feliz*, happy, *felicior*, more happy, *felicissimus*, most happy; *felix*, happy, *felicior*, more happy, *felicissima*, most happy; *feliz*, happy, *felicius*, more happy, *felicissimum*, most happy. Gen., *felicis*, of happy, *felicioris*, of more happy, *felicissimi*, of most happy, &c. Then teach them to join a substantive with any one or all of the degrees, thus: *Injustus pater*, a harsh father; *injusta mater*, an unjust mother; *inustum animal*, an unjust creature. *Inductus puer*, an unlearned boy; *inductior puella*, a more unlearned girl; *inductissimum vulgas*, the most unlearned common people.

8. To help them the better to perform this profitable exercise of themselves, let them sometimes write a noun, which you appoint them at large, and distinguish betwixt that part which is movable and that which is immovable; I mean betwixt the forepart of the word and its termination, thus: Sing. nom., *mens-a*, a table; gen., *men-a*, to a table; dat., *mens-a*, to a table, &c., to the end.

Thus, likewise, they may be exercised in writing out substantives and adjectives, and forming the degrees of comparison, with which work they will be exceedingly much delighted when once they can write, and by once writing, they will better discern what they do than by ten times telling it over; which makes me again press hard, that either a child may be able to write before he be put to the grammar school, or else be put to learn to write so soon as he comes thither. For besides the confused disorder it will make in a school when some children are fitted to undergo their tasks and others are not, they that can write shall be sure to profit in grammar learning, whereas, they that can not will do little but disturb the school and hinder their fellows, and bring a shame upon their master, and a blame upon themselves because they do not learn faster. And, also, poor child, how should he be made to go that wants his legs? if he go upon crutches it is but lamely. And how should he be taught grammar, which is the art of right writing as well as speaking, that can not write at all? I wish they that take upon themselves to teach boys grammar before they can write, would but take upon themselves the trouble to teach one to speak well that can not speak at all. But I say no more of this subject, for though what I say have seemed to some a mere paradox, yet upon trial they have found it a plain, real truth, and such as any man will assent to.

As for that which is generally objected, that whilst children are young their hands are unsteady, and therefore they should go on at their books till they grow more firm, it will quickly be found a mere idle fancy when such objectors shall see less children than their own every day practice fair writing, and make more speedy progress at their books by so doing.

Now touching verbs:

1. Be sure that children be well acquainted with the different kinds of them, distinguished both by signification and termination, as also with their moods, tenses and signs, and with the characteristical letters of the four conjugations, (which are *a* long, and *e* long, and *e* short, and *i* long.) And as they conjugate a verb, let them take more particular notice of its present tense, preterperfect tense and first supine, because of these all other tenses are formed; and these, therefore, are specified in every dictionary.

2. Let them first repeat over the verb *sum*, according to four moods only, (the optative, potential and subjunctive being the same in all verbs,) because it hath a proper manner of declining, and is most frequently used, and will be helpful to form the preter tenses in the passive voice, which consist of a participle joined with it.

3. Let them get the active voice very perfectly by heart, and afterward the passive, (though they do it more leisurely, taking but one mood at a lesson,) and let them now repeat the paradigms as they stand confusedly together in their book, but sever them one from another, and go on with one at once, viz., *amo* by itself, *doceo* by itself, *lego* by itself, and *audio* by itself, through all moods, tenses, numbers and persons, giving the English with the Latin, sometimes putting the one before and sometimes the other; and be sure to make them mind all the figures in English, and the terminations answering to them in Latin.

4. Then teach them to form only the first person singular of every conjugation severally, both with Latin before English and English before Latin, as *amo*, I love, *amabam*, I did love, &c.; or I love, *amo*, I did love, *amabam*, &c.

5. Cause them again to form only the present tense, with the tenses that depend more immediately upon it, and then the preter tense, with those that are formed of it. And give them here to observe the rule in their *Accidents* touching the formation of the tenses, which is more easy to be delivered and remembered, thus: All tenses that end in *ram*, *rim*, *ssem*, *ro*, *sse*, are formed of the preter tense, and all the rest of the present tense, according to the Latin verse:

*Ram, rim, ssem, ro, sse; formabit catena præsens.*

6. Make them give you the terminations of the first person singular, throughout all moods and tenses, of each several conjugation, as to say, the terminations of the first persons singular in the first conjugation are *o*, *abam*, *avi*, *averam*, *abo*, &c. Then let them run over the terminations of all the persons in both numbers of every mood and tense in the several conjugations, as to say, the terminations of the indicative mood, present tense, of the first conjugation are, *o*, *as*, *at*, *amus*, *atis*, *ant*; of the preterimperfect tense, *abam*, *abas*, *abat*, &c.

7. Let them join the terminations of the first person with the signs of every tense in both voices, thus: *o*, *do*; *bam*, *did*; *i*, *have*; *ram*, *had*; *bo*, *shall* or *will*, &c.; *or*, *am*; *bor*, *was*; *us* *sum vel fui*, *have been*; *us* *eram vel fueram*, *had been*; *bor*, *shall be*, &c., throughout all the conjugations. And let them withal take notice how the three persons in both numbers differ both in signification and ending, as *I*, *o* and *r*; *thou*, *s* and *ris*; *he*, *t* and *tur*; *we*, *mus* and *mur*; *ye*, *tis* and *ni*; *they*, *nt* or *ntur*.

8. Let them repeat the active and the passive voice together, and compare them one with another as they form them in all persons throughout each mood and tense of every conjugation, thus: *amo*, I love; *amor*, I am loved; *amabam*, I did love; *amabar*, I was loved, &c.

9. Exercise them well in so many several examples of the four conjugations, as that on a sudden they can render you any verb out of Latin into English, or out of English into Latin, with its right mood, tense, number and person, you telling them the first word of it, or they knowing it beforehand, as if you say, *we have run*, they can answer, *cucurrimus*; or if you say, *I shall blot*, they can answer, *maculabo*, having learned that *curro* is Latin for *to run*, and that *maculo* signifieth *to blot*. To make them more fully acquainted with the variation of a verb, it were good sometimes for them to write out at full length, both in

English and Latin, making a line betwixt the alterable part of it, and the termination, (which remaineth alike to all,) thus: *voc-o*, I call; *voc-as*, thou callest; *voc-a*, he calleth, &c.

N. B.—The nouns and verbs being thus perfectly gotten at the first, (till which be done, the preface before the grammar counteth not the scholar ready to go any further, and saith it may be done with a quarter of a year's diligence, or very little more,) the difficulty of the Latin tongue will be quite overpast, and a child will more surely and heedfully learn them thus singly by themselves than by long practice in parsing and making Latin, because then he is to attend to many other things together with them, for the better observation whereof these will abundantly prepare him.

And because all children are not so quick-witted as fully to apprehend the various alteration of the nouns and verbs till after long and continued practice, it were good if a time were set apart, once a week, wherein all the scholars (especially of the three lower forms, and those in the upper that are less expert, as having perhaps come from a school wherein they were never thus exercised) may be constantly employed in this most profitable exercise. And for more ready dispatch amongst a multitude, it is not amiss if they repeat them through in a round, word by word, saying every one in order after another, thus: 1. Sing. nom., *musa*, a song; 2. Gen., *musa*, of a song; 3. Dat., *musa*, to a song; 4. Accus., *musam*, the song, &c., till they have gone through all the declensions and conjugations, and the aforementioned variety of practice upon them, according as we may observe Corderius in his *Colloquies* to have given us a hint. And to stir them all up to more attentiveness, the master may (unexpectedly sometimes) ask the case of a noun, or the mood and tense of a verb, of one that he espieth more negligent in minding than the rest.

As a help to the better performance of this necessary task, I provided a little book of one sheet, containing the terminations and examples of the declensions and conjugations, which the less experienced may make use of till they can exercise themselves without it; by the frequent impression and ready sale whereof, I guess it hath not been unacceptable to those of my profession for the purpose whereto I intended it; and I have sometimes in one afternoon made a thorough practice of all that hath here been mentioned touching nouns and verbs, without any weariness at all to myself, or irksomeness to my scholars, who are generally impatient of any long work, if it be not full of variety, and easy to be performed.

Some little pains would also be taken with the pronouns, so as to show their number, distinction, manner of declining both in English and Latin, and their persons; and then with the participles to mind how their four tenses are distinguished both by their signification and ending, and how they are declined like adjectives.

Touching adverbs, conjugations, and interjections, they need only to tell of what signification they are; and touching prepositions, let them observe which serve to an accusative case, which to an ablative, and which to both.

Now for the more orderly dispatch of this first part of the *Accidents* and the better learning of every part of it, not by rote, but by reason, and to make children more cunning in the understanding of the things than in rehearsing of the words, and to fasten it well in their memories, I have found it very profitable to set apart two afternoons in a week (commonly Tuesdays and Thurs-

days) for the examination of it all quite through, causing one side of a form to ask the questions out of the examination of the *Accidents*, and the other to answer according to the words of their book; and whether they do this exactly, *memoriter*, or sometimes looking upon the book, it makes no matter, for the often practice thereof will be sure to fix it after a little while in their understanding and memories so fast, that they will have it ready for use against they come to the second part of the *Accidents*, which concerneth concordance and construction.

N. B.—When children first begin their introduction, they may provide a little vocabulary, (if the *Orbis Pictus* be too dear,) out of which they should be made to read a chapter every day, at one or four o'clock, and when it is read over you may see who can give you the most names of things under one head, both English and Latin, and let him that tells you the most have some little reward for encouragement, to draw on others in hope of the like to do as well as he. This profitable exercise was often used by Corderius, and is an excellent mean to help children to store words, which are indeed the subject about which grammar is conversant, so that to teach one grammar without giving him some knowledge of words, is to teach him to tie a knot that hath not a string to tie it upon. They may say the introduction for parts, and the vocabulary for lessons, (as you please,) and whenever they go out about necessitous business, be sure they say (at least) four words of those which they have learned, and let them always carry their vocabulary about with them to be looking into it for words.

Thus, then, I allow one-half year for boys in the lowest form, that can read and write beforehand, to learn the first part of the *Accidents*, and how to call things by their Latin names, making use of a vocabulary.

And then I would have them divide the whole introduction into twelve parts, (as they did at the first reading of it over,) and repeat constantly every morning one by heart to fix it well in the memory; and for forenoon lessons (to be said about ten o'clock) they may proceed to the second part of the *Accidents*, commonly called the English rules, for the perfect knowledge and exercise whereof, they may profitably spend the succeeding half year.

In getting whereof, because custom hath everywhere carried it (contrary to those excellent directions given in the preface to the reader, of which Mr. Hayne mentioneth Cardinal Wolsey to have been the author) for children first to read them over, and afterward to con them by heart as they stand in the book, (making it a work merely for the memory, which some children are good at, though they understand nothing at all, and therefore many unskillful masters, not knowing how to do otherwise, especially with boys that cannot write, let them run on by rote, presuming that when they have got the rules thus, they may be afterward made to understand them by practice in parsing,) I will go along with the stream, and allow my scholars to get them by heart, saying two or three rules at a time, as they do in most schools; and as they do this, I would have them chiefly to take notice of the titles, or heads, and which are the general rules, and which are the observations and exceptions made concerning it, that by this means they may learn to turn readily to any one of them that shall be called for. But that children may best understand and soonest conceive the reason of the rules, and thereby be made acquainted with the fashion of the Latin tongue, (which is the main scope that this part of the

*Accidents* aimeth at,) I would have them daily exercised in the practice of concordance and construction (which will also confirm and ready them in the introduction) after this manner:

1. Let them mark out the more general and necessary rules (as they go along) with their examples, and after they have got them perfectly by heart, let them construe and parse the words in the example, and apply the rule to the words to which it belongeth, and wherein its force lieth.

2. Let them have so many other examples besides those that are in their book as may clearly illustrate and evidence the meaning of the rule, and let them make it wholly their own by practicing upon it, either in imitating their present examples, or propounding others as plain. Thus, that example to the rule of the first concord may be first imitated: *Proceptor legit, vos vero negligitis.* The master readeth, and ye regard not. The pastors preach, and people regard not. I speak, and ye hear not. We have read, and thou mindest not. And the like may be propounded, as—Whilst the cat sleepeth the mice dance. When the master is away the boys will play. Thou neglectest when I write. And these the children should make out of English into Latin, unto which you should still add more till they be able by themselves to practice according to the rule.

3. After they have thus gone over the general rules, let them together with one rule get its exceptions and observations as they lie in order, and learn how they differ from the rule, and be sure that they construe and parse every example, and imitate and make another agreeable to the rule, observation or exception, as is shown before.

N. B.—Now forasmuch as little ones are too apt to forget anything that hath been told them concerning the meaning of a rule and the like, and some indeed are of more leisurely apprehensions than others, that require a little consideration of a thing before they can conceive it rightly, they may be helped by making use of the second part of the *Accidents* examined, wherein,

1. The rules are delivered by easy and short questions and answers, and all the examples are Englished, and the words wherein the force of the example lieth are applied to the rule.

2. The examples are grammatically construed, and all the first words in them set down in the margin, and referred to an index, which sheweth what part of speech they are, and how to be declined or conjugated. This I contrived at the first as a means to prevent children's gadding out of their places, under a pretense of asking abler boys to help them in construing and parsing these examples, but upon trial I found it a great ease to myself for telling the same things often over, and a notable encouragement to my scholars to go about their lessons, who always go merrier about their task when they know how to resolve themselves in anything they doubt.

3. When they have got the second part of the *Accidents* well by heart, and understand it (at least) so far as to be able to give you any rule you call for, you may divide it also into eight parts, according to the heads set down in the book, whereof the

First may be concerning the first, second and third concord.

The second, concerning the case of the relative, and the construction of substantives.

The third, concerning the construction of adjectives, and of a pronoun.

The fourth, concerning the construction of verbs with a nominative and genitive case.

The fifth, concerning the construction of verbs with a dative, accusative and ablative case.

The sixth, concerning the construction of passives, gerunds and supines.

The seventh, concerning time, space, place and impersonals.

The eighth, concerning the participle, the adverb, the conjunction, the preposition, and the interjection, which being added to the foregoing twelve, the whole *Accidents* may be easily passed over at twenty parts, and kept surely in mind by repeating it once a month for morning parts, and examining it every Tuesday and Thursday in the afternoon.

As they made use of the *Vocabulary*, together with the first part of the *Accidents*, so may they join *Sententiae Puerilis* with the second, which book I would have them to provide both in English and Latin.

1. Because it renders the book more grateful to children, who by reading their lessons in their mother's tongue know better what to make of them.

2. Because they are apt to mistake what they have been construed, especially in words that have various significations.

3. Their memories being short, they must be told the same word as oft as they ask it ere they come to say it, and when they come (perhaps) they can not construe one sentence to any purpose.

As they learn this book, let them but take three or four lines at once, which they should,

1. Contrue out of Latin into English, and then out of English into Latin.

2. Decline the nouns and form the verbs in it throughout, and give the rules for the concordance and construction of the words.

3. Bring their lessons fairly written out both in English and Latin, in a little paper book, which will exceedingly further them in spelling and writing truly.

4. To fix their lessons the better in their memory, you may ask them such plain questions as they can easily answer by the words in the sentence.

5. Let them also imitate a sentence sometimes by changing some of the words, and sometimes altering their *Accidents*.

6. Give them sometimes the English of a sentence to make into Latin for themselves, and then let them compare it with the Latin in the book, and see wherein they come short of it, or in what rule they fail.

For though the main end of this book, which is full of plain lessons both of honesty and godliness, be to instill those grave sayings into children's minds, (some of which notwithstanding are too much beyond their reach) and it be not perhaps so useful for the speedy gaining of Latin, yet by being thus made use of, it may be very much improved to both purposes.

Here I think it no digression to tell, how I and some school-fellows (yet living, and eminent in their scholar-like professions) were nestled two or three years together in learning this book of sentences. After we had gone over our *Accidents* several times by heart, and had learned part of *Propria que maribus*, we were put into this book, and there made to construe and parse two or three sentences at once out of mere Latin, and if in anything we missed, we were sure to be whipped. It was well if, of sixteen or twenty boys, two at any time could say it, and that they did say it right was more by hap-hazard than any thing that they knew; for we knew not how to apply one rule of grammar to

any word, nor could we tell what part of speech it was, or what belonged to it, but if the master told us it was a noun, to be sure we said it was of the nominative case and singular number; and if a verb, we presently guessed it to be of the indicative mood, present tense, singular number, and third person, because those coming so frequently, we erred the less in them. And an ignorant presumption that we could easily say them, made us spend our time in idle chat, or worse employment; and we thought it in vain for us to labor about getting a lesson, because we had no help at all provided to further us in so doing. Yet here and there a sentence, that I better understood than the rest, and with which I was more affected, took such impression as that I still remember it, as *Gallus in suo stirquilinio plurimum potest. Ubi dolor, ibi digitus, &c.*

This I have related, by the by, to manifest by mine own sense and experience what severity children for the most part undergo, and what loss of time befalls them in their best age for learning, when they are merely driven on in the common road, and are not (rather) guided by a dexterous, diligent and discreet teacher, to understand what they learn in any book they are put into.

Now because all our teaching is but mere trifling, unless withal we be careful to instruct children in the grounds of true religion, let them be sure to get the Lord's Prayer, the Creed, and the Ten Commandments, first in English, and then in Latin, every Saturday morning for lessons, from their first entrance to the grammar school; and for their better understanding of these fundamentals of Christianity, you may (according to Mr. Bernard's little catechism) resolve them into such easy questions, as they may be able to answer of themselves, and give them the quotations, or texts of Scripture, which confirm or explain the doctrinal points contained in them, to write out the following Lord's day, and to show on Monday mornings when they come to school. In short, then, I would have this lowest form employed one-quarter or half a year in getting the *Introduction* for parts and lessons, and as long in repeating the *Introduction* at morning parts, and reading the *Vocabulary* for afternoon parts, saying the English rules for forenoon lessons, the *little Vocabulary* for afternoon parts, and *Sententiae Pueriles* for afternoon lessons, and the *Principles of Christianity* for Saturday lessons. So that in one year's time this work may be fully complete, of preparing them for the Latin tongue, by teaching them the perfect use of the *Accidents*, and helping them to words, and how to vary them.

III.—*How to make children of the second form perfect in the rules of the genders of nouns, and of the preterperfect tenses, and supines of verbs, contained in Propria qua maribus, Qua genus, and As in Presenti; and how to enter them in writing, and speaking familiar and congruous Latin.*

The general course taken in teaching the rules of the genders and nouns, and conjugating verbs, is, to make children to patter them over by heart, and sometimes also to construe and parse them; but seldom or never are they taught the meaning of a rule, or how to apply it readily to the words they meet with elsewhere.

The volubility of the verse doth indeed help some quicker wits for the more ready repeating of them; but others of more slow pace (that learn better by understanding what they say) are apt to miscall every word in their lesson, because they can not tell what it meaneth; and let them take never so much pains about it, very little of what they are to learn will stick in their memories.

Some therefore have decried this patching of rules into a cobbling verse; others have thought it better to denote the genders of nouns, and the preterperfect tenses of verbs by the terminations of the first words, and some have quite altered these rules by expunging some words and inserting others, which they thought might better agree with them; but for my part, I like his judgment well, that said it was impossible for any grammarian to make better rules than these in *Propria quæ maribus*, and *As in Presenti*; for though in some things they may be faulty, as *Quæ genus* is in very many, yet (as Mr. Brinsley saith of the *Accidents*) a wise master is not to stand with his children about mending of it, but only to make them understand the rules, as they are set down in the book, which that they may well do I propound this expedient:

1. Let them for forenoon lessons begin with *Propria quæ maribus*, and then proceed to *As in presenti*, leaving *Quæ genus* to the last, because it is of less use, and harder for children to understand.

2. In getting these rules at first, let them read them all distinctly over, and take notice of the titles or heads, and mark out the most general rules, which they may learn before any of the rest; and to make them the better to understand themselves, you may allow them an English *Propria quæ maribus*, &c., which they may compare all along with that in their grammar, and if at any time you perceive that they do not well apprehend the meaning of a rule, do you illustrate it by instancing some words that they have had in their vocabulary, or elsewhere. This will make them somewhat ready to turn to any rule.

3. At the next going them over, they will be able to say four or six lines at a time, *memoriter*. And then you may let them get all before them, and make them, after they have said a lesson by heart, to construe it by the help of a constringu-book, and to decline every noun, and conjugate every verb, by the help of the indexes annexed to the *Propria quæ maribus*, &c., Englished and explained.

4. You may exercise them in this manner by repeating more and more at a time, till they can decline nouns and conjugate verbs, and apply the rules readily to them; and having thus gained them, you may keep them by dividing the whole into ten parts, according to the commonplace heads, thus: the first may be at *Propria quæ maribus*, &c.; *de Regulis generalibus Propriorum, de Regulis generalibus Appellativorum, de prima speciali Regula, et ejus exceptionibus Masculinis, Neutris, Dubiis, et Communibus*. The second at *Nomen crescentis penultima, &c.; Syllabe acuta sonat, &c.; de secunda speciali Regula, et ejus exceptionibus Masculinis, Neutris, Dubiis, et Communibus*. The third at *Nomen crescentis — Sit gravis, &c.; Deterior speciali Regula, et ejus exceptionibus Femininis, Neutris, Dubiis, Communibus, et de Regulis Adjectivorum generalibus*. The fourth at *Quæ genus, de variantibus genus, de defectivis casu, Aptotis, Diptotis, Triptotis, et Vocabulo parentibus*. The fifth at *Propria cuncta notes, &c.; de defectivis numero, plurali, et singulari*. The sixth at *Hec quasi luxuriant, &c.; de Redundantibus*. The seventh at *As in presenti, de Simplicium verborum præterito prima, secunda, tertia, et quartæ Conjugationis*. The eighth at *Præteritum dat idem, et de Compositorum verborum præteritis*. The ninth at *Nunc ex præterito, &c.; de Simplicium verborum, et Compositorum Supinis*. The tenth, *De Præteritis verborum in OR, de geminato præteritum habentibus, de neutro passivis, de verbis præteritum mutuantibus, de præterito parentibus, et de Supinum raro admittenti*.

*bus.* If you add these ten to the twenty parts in the *Accidents*, they may run over the whole thirty in six weeks, saying every morning one except on Saturdays, which are reserved for other occasions. Their noon parts may be in the larger vocabulary, which is commonly printed, with the grounds of grammar, in an easy entrance to the Latin tongue, in which they may peruse a whole chapter at once, and afterward strive who can tell you Latin for the most things mentioned in it. And if at any time the words be not so obvious to their understanding, because (perhaps) they know not the things which they signify, do you tell them what the thing is, and explain the word by another that is more familiar to them.

Their afternoon lessons on Mondays and Wednesdays may be in *Qui mihi*, which containeth pretty precepts of good manners much befitting children to observe, and which are so common in every mean scholar's mouth, that a child would blush to seem ignorant of them. In getting this,

1. Let them repeat two distiches at once, *memoriter*, and if withal you let them get the English verses answerable to the Latin, and printed with the *Grounds of Grammar*, they will fix the Latin better in their memories.

2. Let them construe the lesson grammatically, and to help themselves in that more difficult work, let them make use of the construction made them at the end of their construing-book.

3. Let them read the Latin in the grammatical order, and sometimes into mere English, and then let them parse every word according to that order, giving the rules for the genders of nouns, and the proterperfect tenses and supines of verbs, and applying those of concordance and construction as they come in their way.

4. To exercise them in true writing, it were good if they had a little paper book wherein to write first the Latin and then the English distiches at full length, which they may show when they say their lesson.

5. To find them some employment after the lesson, you may give them some easy dictate out of it to turn into Latin, sometimes by way of question and answer, and sometimes more positively, thus: What shall that scholar do that desireth to be taught? He shall conceive the master's sayings in his mind. *Quid faciet ille discipulus, qui cupit doceri? dicta paeceptoris animo suo concipiet;* or thus: A boy that is a scholar, and desireth to be taught, ought to conceive the master's sayings in his mind, and so as to understand them well. *Puer qui discipulus est et cupit doceri, dicta paeceptoris animo suo concipere debet, aique illa ut eadem recte intelligat.* And this you may cause any one of them to read, and let the rest correct him in any word he hath made amiss, and be sure they can all give a rule for what they do.

After they have repeated these verses of Mr. Lilly's so often over that they can say them all at once pretty well by heart, they may continue their afternoon lessons in *Cato*, saying two or three distiches at once, according to the directions already given in the preface to that book in English and Latin verse; and when they have gone through a book of it, let them try amongst themselves who can repeat the most of it by heart, as we see Corderius did sometimes exercise his scholars as it appeareth by his *Colloquies*.

Now forasmuch as speaking Latin is the main end of grammar, and there is no better expedient to help children in the ready exercise thereof than frequent perusal of vocabularies for common words, and colloquies for familiar phrases,

and such as are to be used in ordinary discourse, I think it very convenient to make use of *Pueriles Confabulatiunculae*, both in English and Latin, on Tuesdays and Thursdays in the afternoons, instead of lessons, thus:

1. Let them read a whole colloquy (if it be not too long) at once both in English and Latin, not minding to construe it *verbatim* at the first going it over, but to render the expressions wholly as they stand, and are answerable one to another, and this will acquaint them with the matter in the book, and enable them to read both the languages more readily.

2. At a second going over, let them construe it grammatically, and then take any phrase or sentence in the present lesson, and make such another by it, changing either the words or some of their *Accidents*, as the present occasion requireth, ex. gr. As they say in the singular number: God save you, *Salve, Sis salvus, jubeo te salvare*, or, *ave*, so make them say in the plural number, God save you, *Salvete, sitis salvi, jubemus vos salvare*, or, *avete*. So likewise when they can say, I thank you, *Habeo tibi gratiam*, or, *Habetur tibi a me gratia*, let them imitate, and alter it by saying, We thank your father, *Habemus patri tuorum gratiam*. My mother thanks you, Sir, *Mater habet tibi gratiam, Domine*, or, *Habetur tibi, Domine, a matre mea gratia*.

When they have gone this book so often over as to be well acquainted with its phrases, let them proceed to *Corderius' Colloquies*, which they have also in English and Latin, and which they may construe grammatically, and cull the phrases out of it, to make use of them in common speaking Latin.

Let them have a little paper book wherein to gather the more familiar phrases which they find in every lesson printed in a different character, and let them by often perusal at spare times, and bearing them always about them, get them so readily by heart as to be able to express themselves in Latin by them upon any meet occasion. And this way of exercising them to speak according to their author's expressions, from their first entrance upon Latin, is the best expedient that can be taken to avoid Anglicisms, which otherwise they are very prone to, so long as they are directed only by grammar rules, and forced to seek words in the dictionary, where commonly they light upon that which is most improper.

And that they may now do something of themselves by way of night exercise, let them every evening translate a verse at home out of the 119th Psalm, which I conceive is the most easy for the purpose of making the three concords and some of the more necessary rules of construction familiar to them. In making their translations,

1. Let them be sure to write the English very fair and true, observing its just pauses, and let them also make the like notes of distinction in their Latin.

2. When they come to show their Latins,

1. Let one read and construe a verse.

2. Let another tell you what part of speech every word is, as well English as Latin, and what the English signs denote.

3. Let the rest in order give you the right analysis of every word one by one, and the rules of nouns and verba, and of concordance and construction. And because these little boys are too apt to blur and spoil their Bibles, and to make a wrong choice of words out of a dictionary, which is a great main and hindrance to them in making Latin, (and caused Mr. Ascham to affirm, that making of Latin marreth children,) I think it not amiss to get that Psalm and some

other Englishes printed by themselves, with an alphabetical index of every word which is proper for its place, right choice of words being indeed the foundation of all eloquence.

On Saturdays, after they can say the Lord's Prayer, the Creed, and the Ten Commandments in English and Latin, they may proceed to the *Assembly's Catechism*, first in English, and then in Latin, or the like. This second form then is to be exercised,

1. In repeating the *Accidents* for morning parts.
2. In saying *Propria quæ maribus, Quæ genus, As in praesenti*, for forenoon lessons.
3. In reading the *larger Vocabulary* for noon parts.
4. In learning *Qui mihi* and afterward *Cato* for afternoon lessons on Mondays and Wednesdays, and *Pueriles Confabulatiunculae* and afterward *Corderii Colloquia* on Tuesdays and Thursdays. And

5. Translating a verse out of English into Latin every evening at home, which they may bring to be corrected on Fridays, after all the week's repetitions are ended, and return written as fair as possibly they can write on Saturday mornings, after examinations are ended. And thus they may be made to know the genders of nouns, and preterperfect tenses, and supines of verbs, and initiated to speak and write true Latin in the compass of a second year. So that to children of betwixt seven and nine years of age, in regard of their remediless inanimadvertency, I allow two whole years to practice them well in the rudiments or grounds of grammar, in which I would have the variation of nouns and verbs to be specially minded, for till they be very ready in those, their progress in other things will be full of uncertainties, and troublesomely tedious; but if those be once well got, all other rules which have not (perhaps) been so well understood will more easily (as age increaseth) be better apprehended and put in use.

IV.—*How to make children of the third form perfect in the Latin syntaxes, commonly called Verbum Personale; as also to acquaint them with Prosodia, and how to help them to construe and parse, and to write and speak true and elegant Latin.*

Children are commonly taught the Latin syntaxes before they be put to make use of any Latin book besides it; and so they can but say it readily by heart, construe it, and give the force of its rules out of the examples, they are thought to learn it well enough. But the very doing thus much is found to be a work too tedious with many, and therefore some have thought good to lessen the number of the rules, and others to dash out many examples, as if more than one or two were needless; so that when a child hath with them run over this part of the grammar, it is well if he have learned the half of it, or know at all what to do with any of it.

I think it not amiss therefore to show how it may be all gotten understandingly by heart, and settled in the memory by continual practice, which is the life of all learning:

1. Let those then of this third form divide their *Accidents* and rules of nouns and verbs into ten parts, whereof they may repeat one every Thursday morning, and make way for the getting of the syntax on Mondays, Tuesdays and Wednesdays for morning parts.
2. Let them repeat as many rules, *memoriter*, as they are well able, together

with all their examples; and to help their understanding therein, you may do well to show the meaning of every rule and exception beforehand, and to make them compare them with those in the English rules under the same head, and to see which are contained in the Latin which are not in the English, and which are set down in the English which are left out in the Latin.

3. To help them to construe well before they come to say it, let them make use of their construing-books, and that they may better mind what they construe, you may cause them sometimes, when they come to say it, to read the part out of Latin into English.

4. In parsing, let them give you the word governing, and apply the word governed according to the rule, and tell you wherein the exceptions and observations differ from the general rule.

5. Let them have a paper book in quarto, in the margin whereof they may write the first words of every rule and exception; and let them have as many familiar examples (some in English only, and some in Latin only) as may suffice to illustrate the rule more clearly to them, and do you help them, *extempore*, to turn their English ones into Latin, and their Latin ones into English; and having a space left under every head, let them fill it up with pregnant examples, which they meet with as they read their Latin authors, or as they translate English sentences into Latin.

I observe Melanthon and Whittington of old, and Mr. Clarke, Mr. Comenius and others of late, to have made subsidiaries of this nature, which because they seem somewhat to overshoot the capacities of children, who (as Mr. Ascham observes,) are ignorant what to say properly and fitly to the matter, (as some masters are also many times,) I have taken the pains to make a *praxis* of all the English and Latin rules of construction and syntaxes as they lie in order, and to add two indexes, the first of English words and the Latin for them; the second of Latin words and the English for them, with figures directing to the examples wherein they are to be used.

And for more perspicuity's sake, I take care that no example may touch upon any rule that is not already learned, for fear of puzzling young beginners in this necessary and easy way of translating with the rule in their eye, which doth best direct the weakest understanding.

Now forasmuch as the daily reading of Latin into English is an especial means to increase the knowledge of the tongues, and to cause more heed to be taken to the grammar rules as they are gotten by heart, I would have those in this form to read every morning after prayers four or six verses out of the Latin *Testament*, which they will easily do, having beforehand learned to construe them word by word with the help of their English *Bible*. In this exercise let them all be well provided, and do you pick out only one boy to construe, and then ask any of the others the analysis of a noun or verb here or there, or some rule of construction which you think they have not so well taken notice of as to understand it fully. Hereby you may also acquaint them with the rule and way of construing as it is more largely touched in the following part of this chapter.

N. B.—Those children that are more industriously willing to thrive may advantage themselves very much by the perusal of *Gerard's Meditations*, *Thomas de Kempis*, *St. Augustine's Soliloquies*, or his *Meditations*, or the like pious and profiting books which they may buy both in English and Latin, and continually bear about in their pockets to read at spare times.

Their forenoon lessons may be in *Aesop's Fables*, which is indeed a book of great antiquity and of more solid learning than most men think. For in it many good lectures of morality, which would not (perhaps) have been listened to if they had been delivered in a plain and naked manner, being handsomely made up and vented in an apologue, do insinuate themselves into every man's mind.

And for this reason perhaps it is that I find it and *Gesta Romanorum* (which is so generally pleasing to our country people) to have been printed and bound up both together in Latin, even when the Latin was yet in its dross. And to let you see what Latin *Aesop* was there translated into out of Greek by one Romulus, I will give you the first fable in his words:

*De Gallo et Iaspide.*

*In sterquilinio quidam pullus gallinaceus, dum quereret escam, invenit margarinam in loco indigno jacentem, quam cum videret jacentem, sic ait; O bona res, in stercore hic jaces. Si te cupidus invenisset, cum quo gaudio rapuisset, ac in pristinum decoris tui statum rediesses? Ego frustra te in hoc loco invenio jacentem. Ubi potius mihi escam quaro; et nec ego tibi prosum, nec tu mihi.*

*Hec Aesopus illis narrat, qui ipsum legunt et non intelligunt.*

No sooner did the Latin tongue endeavor to recover its pristine purity, by the help of Erasmus and other eminent men of learning in his time, but the Greek copy of *Aesop* was translated by him and his contemporaries, every one striving to outstrip another in rendering it into good Latin; and it is observable, that the stationers' copy (which is generally used in schools) is a mere rhapsody of some fragments of these several men's translations; whence it is that one and the same fable is sometimes repeated thrice over in several words, and that the style of the book is generally too lofty in itself for children to apprehend on a sudden; I have for their sakes therefore turned the whole book, such as I found it, into proper English, answerable to the Latin, and divided both into just periods, marked with figures, that they may more distinctly appear, and be more easily found out for use or imitation; and though I observed some words and phrases scarcely allowable in many places of the book, yet I was loth to make any alteration except in a few gross errors, and especially one that quite perverted the sense of the fable, and appeareth to be a mistake in the translator from the Greek copy, which is thus: *Μόνις καὶ διλόηντις. Μόνις δύριος ἵτις τρεῖς διάνδρις τοῖς ὀδόντας ἰόντες*, which is well Latinized by one, thus: *Aper et vulpes, Aper quem cuidam adstaret arbori, dentes acuebat.* But the unknown translator of this fable (and the rest that yet pass, *sub incerto interprete*) reading perhaps *Μόνος* instead of *μόνις*, or finding that *μόνις* doth sometimes signify like an adjective, *solitarius, solitudines copians, &c.*, renders it into pure nonsense, and in other words also differing from the Greek, thus: *Singulare animal, et vulpes; Singulare agrestis, super quadam sedens arbore, dentes acuebat;* which one having lately translated into English verse, with the picture before it, hath prettily devised a rhinoceros to stand by a tree, and to whet his teeth against it; whereas the Latin hath it, *super quadam sedens arbore*, which is impossible for such a huge beast to do. I have therefore put out the word *singulare*, and made it *aper agrestis*, according to an ancient Greek copy which I have, and I English the clause thus: Lib. 2. Fab. 133—*A wild boar standing by a tree whetted his tusks.* This I have noted, *obiter*, to acquaint the more judicious with my reason for altering those words, and to save the less experienced some

labor in searching out the meaning of them, seeing they pass yet uncorrected in the Latin book.

Let them procure *Aesop's Fables* then in English and Latin, and the rather because they will take delight in reading the tales and the moral in a language which they already understand, and will be helped thereby to construe the Latin of themselves. And herein I would have them take a whole fable and its moral at one lesson, (so that it do not exceed six periods,) which they should first read distinctly; secondly, construe grammatically, and then render the proper phrases; thirdly, parse according to the grammatical order as they construed, and not as the words stand. And then be sure they can decline all the nouns, and conjugate the verba, and give the rules for the genders of the one, and the preterperfect tenses and supines of the other, as also for the concordance and construction, either out of the English Rules, or Latin Syntax, or both, as they come to have learned them.

Let them sometimes write a fable fairly and truly over, according to the printed book, both in English and Latin, and sometimes translate one, word by word, in that order in which they construed it, and this will inure them to orthography.

That they may learn to observe and get the true Latin order of placing words, and the purity of expression either in English or Latin style, let them imitate a period or more in a lesson, turning it out of English into Latin, or out of Latin into English, thus: whereas they read in English—A cock, as he turned over a dunghill, found a pearl, saying, Why do I find a thing so bright? and in Latin, *Gallus gallinaceus, dum vertil stercorarium offendit gemmam; Quid, inquiens, rem sic nitidam reperio?* they may imitate it by this or the like expression: As a beggar raked in a dunghill, he found a purse, saying, Why do I find so much money here? *Mendicus, dum vertil stercorarium, offendit crumenam; quid, inquiens, tantum argenti hic reperio?* By thus doing, they may learn to join examples out of their lessons to their grammar rules, (which is the most lively and perfect way of teaching them,) and to fetch a rule out of their grammar for every example, using the grammar to find rules, as they do the dictionary for words, till they be very perfect in them.

Their afternoon parts may be to construe a chapter in *Janua linguarum*, which will instruct them in the nature as well as in the names of things; and after they have construed, let them try who can tell you the most words, especially of those that they have not met with or well observed in reading elsewhere. For afternoon lessons on Mondays and Wednesdays, let them make use of *Manilius*, which is a poet both for style and matter, very familiar and grateful to children, and therefore read in most schools. They may read over some of the eclogues that are less offensive than the rest, taking six lines at a lesson, which they should first commit to memory as they are able; secondly, construe; thirdly, parse. Then help them to pick out the phrases and sentences, which they may commit to a paper book; and afterward resolve the matter of their lessons into an English period or two, which they may turn into proper and elegant Latin, observing the placing of words according to prose. Thus out of the five first verses in the first eclogue,

*Fauste, precor, gelida quando pecus omne sub umbra  
Ruminat, antiquos paulum recitemus amores.  
Ne si forte sopor nos occupet illa ferarum,  
Quæ modo per segetes tacite insidiantur adulas.  
Sæviat in pecudes. Melior vigilantia somno.*

One may make such a period as this: Shepherds are wont sometimes to talk of their old loves, whilst the cattle chew the cud under the shade, for fear, if they should fall asleep, some fox, or wolf, or such like beast of prey, which either lurk in the thick woods, or lie in wait in the grown corn, should fall upon the cattle. And, indeed, watching is far more commendable for a prince or magistrate than immoderate or unseasonable sleep.

*Pastores aliquando, dum pecus sub umbra ruminat, anticos suos amores recitare solent; ne, si sopor ipsos occupet, vulpes, aut lupus, aut aliqua ejus generis fera predabunda, que vel in densis sylvis latitant, vel per adutas segetes insidatur, in pecudes seviant; immo enim vero, principi vel magistratus vigilantia somno immodico ac intempestivo multo laudabilior est.* And this will help to prepare their invention for future exercises, by teaching them to suck the marrow both of words and matter out of all their authors.

The reason why I desire children, especially those of more prompt wits and better memories, may repeat what they read in poets by heart (as I would have them translate into English what they read in prose) is, partly because the memory thrives best by being often exercised so it be not overcharged; and partly because the roundness of the verses helpeth much to the remembrance of them, wherein boys at once gain the quantity of syllables, and abundance of matter for fancy, and the best choice of words and phrases for expression of their mind.

On Tuesdays and Thursdays in the afternoon (after they have done with *Cordierius*) they may read *Helvici Colloquia*, (which are selected out of those of Erasmus, Ludovicus Vives, and Schottenius,) and after they have construed a colloquy, and examined some of the hardest grammar passages in it, let them all lay aside their books save one, and let him read the colloquy out of Latin into English, clause by clause, and let the rest give it him again into Latin, every man saying round as it comes to his turn. And this will make them to mind the words and phrases beforehand, and fasten many of them in their memories. Help them afterward to pick out the phrases, and let them write them (as they did others) in a paper book. Cause them sometimes to imitate a whole colloquy, or a piece of one; and let them often strive to make colloquies among themselves, talking two, three or more together about things familiar to them, and inserting as many words and phrases as they can well remember to be proper for the present out of any of their authors; and these they should show you fairly written, with a note of the page and line where they borrowed any expression not used before set down in the margin of their exercise. And this will make them industriously to labor every day for variety of expressions, and encourage them much to discourse when they know themselves to be certain in what they say, and that they can so easily come by Latin to speak their minds upon any occasion.

But if instead of *Manuan* you think good sometimes to make use of *Castalian's Dialogues*, you may first make them read the history in the Bible by themselves apart, and then hear them construe it dialogue-wise, pronouncing every sentence as pathetically as may be afterward. One may read it in English, and the rest answer him in Latin, clause by clause, as is already mentioned concerning the *Colloquies*.

And to help them somewhat the better to construe themselves, you may direct them (according to the golden rule of construing commanded and set

down at large by industrious Mr. Brinsley, in the 93d and 94th pages of his *Grammar School*) to take

1. The vocative case and that which dependeth upon it.
2. The nominative case of the principal verb and that which dependeth upon it.
3. The principal verb and that which serveth to explain it.
4. The accusative case and the rest of the cases after it. And herein cause them to observe that interrogatives, relatives and conjunctions are to go before all other words in construing; and that the adjective and the substantive, the adverb and the verb, the preposition and its causal word, go for the most part together. But be sure to teach them often to cast the words of a period into their natural or grammatical order, according to which they must construe, and to know the signification of every word and phrase proper for its place; and withal, let them have in mind the chief matter, drift and circumstances of a place according to the verse:

*Quis, cui, causa, locus, quo tempore, prima, sequela,*

Which biddeth one to heed who speaks, what is spoken to whom he speaks, upon what occasion or to what end he speaks, at what time a thing was done or spoken, what went immediately before and what followeth next after. And if either the construing be against sense or grammar rule, let them try again another way.

To exercise them in something (besides the getting of grammar parts) at home, let them every night turn two verses out of the proverbs of Solomon into Latin, and write out two verses of the New Testament grammatically construed; and let them evermore take heed and spell every word aright, and to mark the pauses or notes of distinction in their due places, for by this means they will profit more in orthography than by all the rules that can be given them; and they will mind etymology and syntax more by their own daily practice than by ten times repetition without it.

On Saturdays, after they can say the *Assembly's Catechism* in English and Latin, you may let them proceed with *Perkins' Six Principles*, and when they have repeated as much as they can well by heart, you may cause them to read it out of English into Latin, yourself ever and anon suggesting to them the propriety of words and phrases where they are at a loss, and directing them, after they have once made it grammatically, to cast it into the artificial order of Latin style. And then let them go to their places, and write it fairly and truly in a little paper book for the purpose.

If out of every lesson, as they pass this little catechism, you extract the doctrinal points by way of propositions, and annex the proofs of Scripture to them which are quoted in the margin, as you see Mr. Perkins hath done in the beginning of the book, and cause your scholars to write them out all fair and at large as they find them in their Bibles, it will be a profitable way of exercising them on the Lord's day, and a good means to improve them in the real knowledge of Christianity.

Now forasmuch as I have observed that children about nine years of age (and few till then) begin to relish grammar so as of themselves to seek into the meaning of rules thereby to conceive the reason of speech, I now judge it requisite for this form to be made thoroughly acquainted with the whole body of it. Therefore, after they have gone over the plain syntax two or three times

by morning parts as is shewed, and have got it pretty well by heart, (for which I judge three-quarters of a year will be time sufficient,) you may let them divide the whole syntax into twelve parts, reckoning them according to the several heads of it, thus: The first, *De concordantia nominativi et verbi, substantivi et adjectivi, relativi, et antecedentis*; the second, *De constructione substantivorum, et adjectivorum cum genitivo*; the third, *De constructione adjectivorum cum dative, accusativo, et ablativo*; the fourth, *De constructione pronominum*; the fifth, *De constructione verborum cum nominativo et genitivo*; the sixth, *De constructione verborum cum dative, et accusativo*; the seventh, *De constructione verborum cum ablativo*; the eighth, *De gerundiis et supinis, et de tempore et loco*; the ninth, *De constructione impersonalium et participiorum*; the tenth, *De constructione adverbiorum*; the eleventh, *De constructione conjunctionum*; the twelfth, *De constructione propositionum, et interjectionum*. All of which twelve you may add to the thirty parts in the *Accidents* and *Propria quae maribus, &c.*, and let your scholars bestow a month's time together in repeating and examining the *Accidents*, and thus far of the grammar, (both for parts and lessons,) till they have thoroughly made it their own; and that they may the better conceive how it hangeth together, and what use they are to make out of its several parts, you should often make them run over the heads of it, and give them an analysis of their dependency one upon another.

After this they may more understandingly proceed to the figures of words and construction, the definitions whereof and their examples they need only get by heart; and for that purpose do you note them out with a pen, and in explaining them give as many examples as may make them fully to apprehend their meaning. But when they have said the definition of one or more figures at a part by heart, you may cause them to construe all they find concerning it; and to help them in so doing, they that are otherwise less able may make use of Mr. Stockwood's little book of *Figura construē*. Then let them go on to *Prosodia*, for their more easy understanding of which, as they proceed in it, you may tell them the meaning of it in brief, thus:

*Prosodia*, being the last part of grammar, teacheth the right pronunciation of words, or the tuning of syllables in words as they are pronounced; and therefore it is divided into a tone, or accent, a spirit, and a time, whereof a tone ordereth the tune of the voice, showing in what syllables it is to be lifted up, and in what to be let down, and in what both to be lifted up and let down; so that there are three tones,—a grave, which is seldom or never made but in the last syllable of such words as ought to have had an acute in the last syllable, and that in the contexture of words in this manner: *Nē si forte sopor nos occupet*; an acute, which is often used to distinguish some words from others, as *unā*, together, *sedulō*, diligently, remain acuted at the end of a speech, and in continuation of speech have their acute accents turned into a grave to make them differ from *una*, one, and *sedulo*, diligent; a circumflex, which is often marked to denote a lost syllable, as *amārunt* for *anaverunt*. A spirit ordereth the breath in uttering syllables showing where it is to be let out softly and where sharply, as in *ara*, an altar, and *hara*, a swine coat. The mild spirit is not marked, but the weak letter *n* being used as a note of aspiration only, and not reckoned as a consonant, serveth to express the sharp spirit. There are three rules of accent which are changed by difference, transposition, attraction, concision and idiom. Time sheweth the measure how long a syllable is to be in pronouncing,

not at all regarding the tone. A long syllable is to be a longer while, and a short a shorter while in pronouncing. Of long and short syllables put together orderly, feet are made, and of feet, verses.

4. Now to know when a syllable is long or short there are rules concerning the first, the middle and last syllables, so that if one mind in what part of a word the syllable stands, he may easily find the rule of its quantity.

The sum of prosodia being thus hinted to them, they may get it by heart at morning parts; and if they can not construe it well by themselves, they may be helped by a little book made by Barnaby Hampton, called *Prosodia construed*. But be sure that they can read you every part into English, and tell you the true meaning of it. Your own frequent examination will be the best way to know whether they understand it or not. And to prepare them for the practice of it in making verses, I would first let them use it in learning to scan and prove hexameter verses only out of *Cato* or *Mantuan*, or such authors as they have read, thus:

1. Let them write a verse out, and divide it into its just feet, giving a dash or stroke betwixt every one; and let them tell you what feet they are, and of what syllables they consist, and why they stand in such a place, as

Si Deus- est ani-mus no-bis ut- carmina- dicunt,  
Hic tibi- præcipu- ē sit- pura- mente co- lendus.

2. Let them set the mark of the time or quantity over every syllable in every foot, and give you the reason (according to the rules) why it is there noted long or short, as

Si Dēūs ēst ānl-mūs nō-bis ūt-ārminā- dicūnt.  
Hic tibi- præcipū- ē sit- pūrā-mēntē cō-lēndūa.

Let them now divide *Figura* and *Prosodia* into six parts; the first, *De figuris dictiōnis, et constructionis*; the second, *De tonis, et spiritibus*; the third, *De carminum ratione, et generibus*; the fourth, *De quantitate primarum syllabarum*; the fifth, *De mediis syllabis*; and the sixth, *De ultimis syllabis*; which they may add to the forty-two parts aforementioned, and keep by constant repetition of one of them every day till they can say them all very well by heart, and give a perfect account of any thing in them.

Then let them begin the *Accidents* and go through it, and the whole Latin grammar in twelve parts, only construing and giving an account of the by-rules, but saying all the rest by heart so that the first part may be the introduction; the second, the construction of the eight parts of speech; the third, orthography; the fourth, etymology so far as concerns the species, figure, number, case and gender of nouns; the fifth, concerning the declension (including *Quae genus*) and the comparison of nouns; the sixth, concerning a pronoun and a verb; the seventh, concerning a participle, an adverb, a conjunction, a preposition, and an interjection; the eighth, syntaxes so far as concerns the concords and the construction of nouns; the ninth, concerning the construction of verbs; the tenth, concerning the construction of participles, adverbs, conjunctions, prepositions and interjections; the eleventh, concerning figures, tones and spirits; the twelfth, concerning the manner of verses and the quantity of syllables.

Now in repeating these parts I do not enjoin that only one boy should say all, though I would have every one well prepared to do so; but that one should say one piece, and another another, as you please to appoint either orderly

throughout the form, or picking out here and there a boy at your own discretion. According to this division, the whole *Accidents* and *Grammar* may be run over once in a month's space, and continued in the upper forms by repeating one part only and constantly in a week so that it may never be forgotten at the school.

This form, in short, is to be employed about three-quarters of a year,—

1. In reading four or six verses out of the Latin *Testament* every morning immediately after prayers.
2. In repeating *Syntaxes* on Mondays, Tuesdays and Wednesdays, and the *Accidents* and *Propria quae maribus*, &c., on Thursdays for morning parts.
3. In *Aesop's Fables* for forenoon lessons.
4. *Janua Linguarum* for afternoon parts.
5. In *Mantuan* for afternoon lessons on Mondays and Wednesdays, and in *Helvicus' Colloquies* on Tuesdays and Thursdays.
6. In the Assembly's Latin *Catechism* on Saturdays for lessons.
7. In translating every night two verses out of the Proverbs into Latin, and two out of the Latin *Testament* into English, which (with other dictated exercises) are to be corrected on Fridays after repetitions are ended, and shown fairly written on Saturday mornings; but because their wits are now ripened for the better understanding of grammar, and it is necessary for them to be made wholly acquainted with it before they proceed to the exact reading of authors and making school exercises, I would have them spend one-quarter of a year chiefly in getting *Figura* and *Prosodia*, and making daily repetition of the whole *Accidents* and common grammar; so that this third year will be well bestowed in teaching children of between nine and ten years of age the whole grammar, and the right use of it, in a method answerable to their capacities, and not much differing from the common mode of teaching.

V.—*How to try children to the utmost whether they be well grounded in the grammar; and how to go more expeditiously to work in teaching the Latin tongue to those that are at years of discretion.*

It is an ordinary course in most of our grammar schools for the usher to turn over his scholars to the higher master after they have gone through the grammar and (with some) been exercised in construing and parsing here and there a piece of the forementioned lower authors, and in turning English sentences or dictates into Latin; but oftentimes it cometh to pass that partly through the usher's want of skill or care to insist upon those things chiefly and most frequently which are the most necessary to be kept in mind, and partly through children's want of heed who are apt to huddle over all parts and lessons alike, not observing what use they are to make of any one in particular more than another, there is no sure foundation laid for the master to build safely upon, which causeth him (if he be not very discreet) to cast off many boys as unfit by him to be further wrought upon, or continually to fret and grieve himself to see his scholars so often mistake themselves in any task or exercise that he setteth them about; and the poor children, being all this while sensible of their own imperfection in the first grounds, are daunted to see their master so often angry with them, and that they are no better able to perform their work to his better satisfaction, which they would gladly do if they did but a little understand how to go about it. Some also preconceiting a greater difficulty to be in

learning than they have hitherto met withal, and not knowing how to encounter it, become utterly discouraged with the thoughts of a new change, and choose rather to forsake the school than proceed to obtain the crown of their by-past labors,—I mean the sweetness of learning which they are now to gain under the master; for after children are once well grounded by the usher, they will go on with ease and cheerfulness under the master, delighting to read pure language and variety of matter in choice authors and to exercise their wits in curious fancies; and it will be an extraordinary comfort to the master to see his scholars able to run on of themselves if he but once show them the way to perform any task that he propoundeth to them. It is necessary therefore for the master, before he take scholars to his only charge, to see first that they understand the rudiments or grounds of grammar, and then the whole grammar itself, and that they can thoroughly practice them; but especially to help those in the understanding and exercise thereof that by reason of sickness or the like accident have been oftener absent, or that have not been so long at the school as their fellows, or who by reason of their age or stature will quickly think it a shame to be left under the usher behind the rest. Now to try whether a child be well grounded or not this course may be taken:

1. Let him take some easy fable in *Aesop*, or any other piece of familiar Latin, and let him construe it of himself according to the directions given in my *Grounds of Grammar*, l. 2, c. 13.

2. Then let him write down the English alone, leaving a large space between every line wherein he should afterward write the Latin words answerable to the English, ex. gr.:

*De seno vocante mortem.*  
Of an old man calling death.

*Quidam senex portans fascem lignorum super humeros ex nemore,*  
An old man, carrying a bundle of sticks upon his shoulders out of a forest,  
*cum defessus esset longa via, vocavit mortem, fascem*  
when he was weary with the long way, called death, the bundle being  
*deposito humi. Ecce! mors adventit, et rogat causam quamobrem*  
laid down on the ground. Behold! death cometh, and asketh the cause why  
*veccaverat se. Tunc senex ait, ut imponeres hunc fascem*  
he had called him. Thē the old man saith, that thou mightest lay this bundle of  
*lignorum super humeros.*  
sticks upon my shoulders.

3. Let him next tell you what part of speech every word is, as well English as Latin, and write them down (as I have also shown formerly) under so many figures, joining the English figures to the words to which they belong, beginning to reckon and pick up first all the nouns, and then the rest orderly after this manner:

1.

*Senex*, an old man.  
*Fascem*, a bundle.  
*Lignorum*, of sticks.  
*Humeros*, shoulders.  
*Nemore*, a forest.  
*Longa*, long.

*Via*, a way.  
*Mortem*, death.  
*Fascem*, the bundle.  
*Humi*, on the ground.  
*Mors*, death.  
*Causam*, the cause.

2.

*Quidam*, an or one.  
*Se*, him.

*Hunc*, this.

<i>Defessus essem</i> , was weary.	3.	<i>Rogat</i> , asketh.
<i>Vocavit</i> , called.		<i>Imponeres</i> , thou mightest lay.
<i>Advenit</i> , cometh.		<i>Ait</i> , saith.
<i>Vocaverat</i> , had called.		
<i>Portans</i> , carrying.	4.	<i>Deposito</i> , being laid.
<i>Cum</i> , when.	5.	<i>Tunc</i> , then.
<i>Ecce</i> , behold.		
<i>Que</i> , and.	6.	<i>Ut</i> , that.
<i>Quamobrem</i> , wherefore.		
<i>Super</i> , upon.	7.	<i>Ez</i> , out of.

4. Let him decline any one or more nouns, and conjugate any one or all the verbs throughout, and then write them down at large according to what I have formerly directed and is practiced in part in Merchant Tailors' School, as is to be seen in the *Probation Book* lately printed by my noble friend and most actively able schoolmaster, Mr. W. Dugard, only I would have him join the English together with the Latin.

5. Let him give the analysis of any word, first at large by way of question and answer, and then sum it up in short, as to say or write it down thus:

*The Analysis of a Noun Substantive.*

What part of speech is *lignorum*, of sticks?

*Lignum*, of sticks, is a noun.

Why is *lignum* a noun?

Because *lignum*, a stick, is the name of a thing that may be seen.

Whether is *lignum* a noun substantive, or a noun adjective?

*Lignum* is a noun substantive, because it can stand by itself in signification, and requireth not another word to be joined with it to shew its signification.

Whether is *lignum* a noun substantive proper, or a noun substantive common?

*Lignum* is a noun substantive common because it is common to more sticks than one.

Of what number is *lignum*?

*Lignum* is of the plural number because it speaketh of more than one.

Of what case is *lignum*?

*Lignum*, of sticks, is of the genitive case because it hath the token of, and answereth to the question whereof? or of what?

Of what gender is *lignum*?

*Lignum* is of the neuter gender because it is declined with this article *hoc*.

Why is *lignum* declined with this article *hoc*?

Because all nouns in *um* are neuters according to the rule in *Propria que maribus, omne quod exit in um, &c.*; or *Et quod in on vel in um fiunt, &c.*

Of what declension is *lignum*?

*Lignum* is of the second declension because its genitive case singular endeth in *i*.

How is *lignum* declined?

*Lignum* is declined like *regnorum*, thus:

Sing. nom., *hoc lignum*; gen., *hujus ligni*, &c.

*Lignorum* is a noun substantive common, of the plural number, genitive case, neuter gender and second declension, like *regnorum*.

*The Analysis of a Noun Adjective.*

What part of speech is *longā*, long?

*Longā* is a noun.

Why is *longā* a noun?

Because it is the name of a thing that may be understood.

Whether is *longā* a noun substantive, or a noun adjective?

*Longā* is a noun adjective because it can not stand by itself in signification, but requireth to be joined with another word, as *longā viā*, with the long way.

Of what number is *longā*?

*Longā* is of the singular number because its substantive *viā* is of the singular number.

Of what case is *longā*?

*Longā* is of the ablative case because its substantive *viā* is of the ablative case.

Of what gender is *longā*?

*Longā* is of the feminine gender because its substantive *viā* is of the feminine gender.

Of what declension is *longā*?

*Longā* is of the first declension.

How is *longā* declined?

*Longā* is declined like *bonā*: Sing. nom., *longus*, *a*, *um*.

By what rule can you tell that *longā* is of the feminine gender?

By the rule of the genders of adjectives, *At si tres variant voces*, &c.

*Longā* is a noun adjective, of the singular number, ablative case and feminine gender, declined like *bonā*.

*The Analysis of a Pronoun.*

What part of speech is *se*, him?

*Se* is a pronoun because it is like to a noun, or put instead of the noun *mortem*, death.

What kind of pronoun is *se*?

*Se* is a pronoun primitive because it is not derived of another.

Of what number is *se*?

*Se* is of the singular number because it speaketh but of one.

Of what case is *se*?

*Se* is of the accusative case because it followeth a verb, and answereth to the question *whom*?

Of what gender is *se*?

*Se* is of the feminine gender because the noun *mortem*, that it is put for, is of the feminine gender.

Of what declension is *se*?

*Se* is of the first declension of pronouns, and it is thus declined: Sing. et plur. nom., *caret*; gen., *sui*, &c.

Of what person is *se*?

*Se* is of the third person because it is spoken of.

*Se* is a pronoun primitive, of the singular number, the accusative case, feminine gender, first declension and third person.

*The Analysis of a Verb.*

What part of speech is *imponeres*, thou mightest lay upon ?  
*Imponeres* is a verb because it signifieth to do.

What kind of verb is *imponeres* ?

*Imponeres* is a verb personal because it hath three persons.

What kind of verb personal is *imponeres* ?

*Imponeres* is a verb personal active because it endeth in *o*, and betokeneth to do, and by putting to *r* it may be a passive.

Of what mood is *imponeres* ?

*Imponeres* is of the subjunctive mood because it hath a conjunction joined with it, and dependeth upon another verb going before it.

Of what tense is *imponeres* ?

*Imponeres* is of the preterimperfect tense because it speaketh of the time not perfectly past.

Of what number is *imponeres* ?

*Imponeres* is of the singular number because its nominative case is of the singular number.

Of what person is *imponeres* ?

*Imponeres* is of the second person because its nominative case is of the second person.

Of what conjugation is *imponeres* ?

*Imponeres* is of the third conjugation, like *legeres*, because it hath *e* short before *re* and *ris*.

How do you conjugate *imponeres* ?

*Impono, imponis, imposui, imponere; imponendi, imponendo, imponendum; impositum, impositu; imponens, impositurus.*

Why doth *impono* make *imposui* ?

Because *præteritum dat idem*, &c.

Why doth *imposui* make *impositum* ?

Because *compositum ut simplex formatur*, &c.

*Imponeres* is a verb personal active, of the subjunctive mood, preterimperfect tense, singular number, second person and third conjugation, like *legeres*.

*The Analysis of a Participle.*

What part of speech is *deposito*, being laid down ?

*Depositio* is a participle derived of the verb *depono*, to lay down.

Of what number is *deposito* ?

*Depositio* is of the singular number because its substantive *fæcē* is of the singular number.

Of what gender is *deposito* ?

*Depositio* is of the masculine gender because its substantive *fæcē* is of the masculine gender.

By what rule can you tell that *deposito* is of the masculine gender ?

*At si tres variant voces*, &c.

Of what case is *deposito* ?

*Depositio* is of the ablative case because its substantive *fæcē* is of the ablative case.

How is *deposito* declined ?

Like *bonus*, a noun adjective of three diverse endings: Sing. nom., *depositus*, *deposita*, *depositum*.

Of what tense is *deposito*?

Of the preter tense because it hath its English ending in *d*, and its Latin in *tus*.

How is *depositus* formed?

Of the latter supine *deposita* by putting to *s*.

*Depositio* is a participle, of the singular number, masculine gender, ablative case, and is declined like *bonus*, being of the preter tense, and formed of the later supine of the verb *depono*.

*The Analysis of an Adverb.*

What part of speech is *cum*, when?

*Cum* is an adverb because it is joined to the verb *defessus essem* to declare its signification.

What signification hath *cum*?

*Cum* hath the signification of time.

But why is not *cum* a preposition in this place?

Because it hath not a casual word to serve unto.

*Cum* is an adverb of time.

*The Analysis of a Conjunction.*

What part of speech is *que*, and?

*Que* is a conjunction because it joineth words together.

What kind of conjunction is *que*?

*Que* is a conjunction copulative because it coupleth both the words and sense.

*Que* is a conjunction copulative.

*The Analysis of a Preposition.*

What part of speech is *ex*, out of?

*Ex* is a preposition because it is set before another part of speech in apposition, as *ex nemore*, out of a forest.

What case does *ex* serve to?

*Ex* serveth to the ablative case.

*Ex* is a preposition serving to the ablative case.

6. Having thus tried your young scholar how he understandeth the introduction or first part of his *Accidents*, (for whom, if you find him expert therein, one example may serve, but if not, you may yet make use of more until he can perfectly and readily give you an account of any word,) you may further make trial how he understandeth the rules of concordance and construction in the second part of the *Accidents* by causing him to apply the rules to every word as he meeteth with it in the grammatical order, thus:

*Quidam* is of the nominative case, singular number and masculine gender, and agreeth with its substantive *senex* because the adjective, whether it be a noun, pronoun, or participle, agreeth with its substantive, &c.

*Senex* is the nominative case coming before *vocavit* (which is the principal verb) because the word that answereth to the question *who?* or *what?* shall be the nominative case to the verb, and shall be set before the verb.

*Portans* is of the nominative case, singular number and masculine gender, and agreeth with its substantive *senex*, because the adjective, whether it be a noun, &c.

*Fasceū* is of the accusative case, governed of *portans*, because participles govern such cases, &c.

*Lignorum* is of the genitive case, governed of *fasceū*, because when two substantives come together, &c.

*Super* is a preposition which serveth to both the accusative and the ablative case, but here it serveth to the accusative.

*Humeros* is of the accusative case, governed of the preposition *super*.

*Ex* is a preposition which serveth to an ablative case.

*Nemore* is of the ablative case, governed of the preposition *ex*.

*Cum* is an adverb of time.

*Defessus eset* is of the singular number and third person, and agreeth with its nominative case *ille*, understood, because a verb personal agreeth with, &c.

*Longā* is of the ablative case, singular number and feminine gender, and agreeth with its substantive *viā*, because the adjective, whether it be, &c.

*Viā* is of the ablative case, governed of *defessus eset*, because all verbs require an ablative case of the instrument, &c.

*Vocavit* is of the singular number and third person, and agreeth with its nominative case *senex*, because a verb personal, &c.

*Mortem* is of the accusative case, and followeth the verb *vocavit*, because verbs transitives are all such, &c.

*Fusce* is of the ablative case absolute because a noun or pronoun substantive joined with a participle, &c.

*Deposito* is of the ablative case, singular number and masculine gender, and agreeth with its substantive *fasce*, because the adjective, whether it be, &c.

*Humi* is of the genitive case because these nouns, *humi*, *domi*, &c.

*Ecce* is an adverb of showing.

*Mors* is the nominative case coming before the verb *advenit* because the word that answereth to the question *who?* or *what?* &c.

*Advenit* is of the singular number and third person, and agreeth with its nominative case *mors* because verb personal, &c.

*Que* is a conjunction copulative.

*Rogat* is of the indicative mood and present tense because conjunctions, copulatives and disjunctives most commonly, &c.

*Causam* is of the accusative case, and followeth the verb *rogat*, because verbs transitives are all such, &c.

*Quamobrem* is an adverb of asking.

*Vocaverat* is of the singu'ar number and third person, and agreeth with its nominative case, *ille*, understood, because a verb personal agreeth, &c.

*Se* is of the accusative case, and followeth the verb *vocaverat*, because verbs transitives are all such, &c.

*Tunc* is an adverb of time.

*Senex* is the nominative case coming before the verb *aii* because the word that answereth to the question *who?* or *what?* &c.

*Aii* is of the singular number and third person, and agreeth with its nominative case *senex*, because a verb personal, &c.

*Ut* is a conjunction causal.

*Imponeres* is of the singular number and second person, and agreeth with its nominative case *tu*, understood, because a verb personal, &c.

*Hunc* is of the accusative case, singular number and masculine gender, and agreeth with its substantive *fascem*, because the adjective, whether it be, &c.

*Fascem* is of the accusative case, and followeth the verb *imponeres*, because verbs transitives, &c.

*Lignorum* is of the genitive case, governed of *fascem*, because when two substantives, &c.

*Super* is a preposition which here serveth to an accusative case.

*Humeros* is of the accusative case because *super* is a preposition serving to an accusative case.

7. Try him yet a little further by causing him to turn an English into Latin in imitation of this fable, and to observe the artificial order in placing all the words, ex. gr.:

A woman bearing a basket of plums upon her head out of a garden, when she was weary with the heavy burden, sat down, having set her basket upon a bulk. Behold! a boy came to her and asked her if she would give him any plums. Then the woman said, "I will give thee a few if thou wilt help me to set this basket upon my head."

*Quedam mulier prunorum calathum super caput exhorto portans, cum gravi onere defessa esset, calathum super scannum posito, desedil. Ecce! puer advenit, numque dare sibi pruna rogavit. Tunc mulier, paucum tibi dabo, siquidem opem mihi feres, ut hunc calathum super caput meum imponam, ait.*

When you have found a child sufficiently expert in the rudiments, go on also to try how far he understandeth the whole art of grammar by this or the like praxis.

1. Let him take a piece of one of *Castalian's Dialogues*, or the like easy piece of Latin, and write it down according to his book; but as he writeth it, let him divide every word of more syllables according to the rules of right spelling, and give you an account of every letter and syllable and note of distinction according to the rules of orthography, and of every accent that he meeteth withal, as also of the spirits and quantities of syllables according to the rules in prosodia, ex. gr.:

*Serpens. Eva.*

*S. Cur ve-tu-it vos De-us ve-sci ex o-mni-bus ar-bo-ribus po-ma-ri-i? E. Li-cel no-bis ve-sci fru-cti-bus ar-bo-rum po-ma-ri-i; tan-tum De-us no-bis in-ter-di-xit e-a ar-bo-re, qua est in me-di-po-ma-ri-o, ne ve-sce-re-mur fru-ctu-e-jus, ne te-e-li-am al-lin-ge-re-mus, ni-si vel-le-mus mo-ri. S. Ne-qua-quam mo-ri-e-mi-ni pro-pie-re-a, sed scit De-us, si com-e-de-ri-tis de-e-o, tum o-cu-los vo-bis a-per-tum-i-ri, al-que i-la vos fo-re tan-quam De-os, sci-en-tes boni, al-que mali. I-la pla-ne-ri-de-tur, et fru-ctus i-pse est pul-cri sa-ne vi-su: ne-sci-o an sit i-la dul-cis gu-stu; ve-rum fa-men ex-pe-ri-ar.*

Now if you ask him why he writeth *Serpens*, *Eva*, *Cur*, *Deus*, *Nequaquam* and *Ila* with great letters, and all the other words with little letters, he can tell you (if he ever learned or minded his rules) that proper names, beginnings of sentences, and words more eminent than others, are to begin with a great letter, and in other places small letters are to be used. If you ask him why he spelleth *ve-tu-it* and not *vet-u-it*, he will say, because a consonant set betwixt two vowels belongeth to the latter.

If you ask him why he spelleth *ve-sci* and not *ves-ci*, he will answer you,

because consonants which can be joined in the beginning of a word must not be parted in the middle of it.

If you ask him why he spellet *ar-bo-ri-bus* and not *a-rbo-ri-bys*, he will tell you, because consonants which can not be joined in the beginning of a word must be parted in the middle of it.

If you ask him why he spellet *vel-le-mus* and not *ve-llemus*, nor *vell-emus*, he will tell you, because if a consonant be doubled the first belongeth to the foregoing and the latter to the following syllable.

If you ask him why he spellet *com-e-de-ri-tis* and not *co-me-de-ri-tis*, he will tell you, because in words compounded every part must be separated from another; and if you again ask him concerning the same syllable, why it is *com* and not *con*, seeing the verb is compounded of *con* and *edo*, he will answer you, because in words compounded with a preposition we must respect the ear and good sound.

Likewise if you proceed to examine him touching the notes of distinction, why one is made and not another, he will tell you that a comma (,) distinguisheth the shorter parts of a sentence, and stayeth the breath but a little while in reading; that a colon (:) divideth period in the middle, and holdeth the breath somewhat long; that a semicolon (;) stayeth the breath longer than a comma, but not so long as a colon; that a period (.) is made at the end of a perfect sentence where one may give over reading if he will; and that an interrogation (?) denoteth that there is a question to be asked.

If you examine him touching the accents, why there is a grave accent in *tanum*, he will tell you it is to make it, being an adverb, to differ from a noun; and that because of contexture of words the accent which ought to have been an acute is turned into a grave.

If you ask him why there is a circumflex accent in *eā*, he will tell you it is to denote that *eā* is of the ablative case singular which hath *ā* long.

And if you ask him why *néve* hath an acute accent, he will tell you that *né* hath changed its grave accent into an acute because the particle *ve* hath inclined its own accent into it.

If you ask him why *omnibus arboribus* are not sharply uttered, he will tell you, because they do not begin with *h*, which is the note or letter of aspiration.

He will quickly show you whether he understandeth his rules touching the quantities of syllables, or not, by writing out a sentence or two, and marking the syllables of every word in this manner:

*Cūr vētiūt vōs Dēus vēscī ēx ómnibūs árbōribūs pōmārī?* Ilēt nōbīs vēscī frūctibūs árbōrūm pōmārī tantūm Dēus nōbīs intēdixit ēā árbōrē, quāē ēst in mēdīt pōmārī, nē vēscērēmūr frūctū ejūs, nēvē etlām attingērēmūs, nīl vēllēmūs mōrī.

2. Let him cast the words of his author into the grammatical order, and analyze every one of them exactly according to etymology and syntaxes (which is the usual way of parsing) after this manner:

*\*Cur Deus vētiūt vos vēci ex omnibūs arboribūs pomariī? licet nobis vēscī frūctibūs arborūm pomariī; tantūm Deus intēdixit nobis ēā arbōrē, quāē ēst in mēdīt pomariī, nē vēscērēmūr frūctū ejūs, nēvē etlām attingērēmūs, nīl vēllēmūs mōrī.*

*Cur* is an adverb of asking.

*Deus* is a noun substantive common, of the singular number, nominative case, masculine gender, (because *mascula in er, &c.*) of the second declension: Sing. nom., *hic Deus*; gen., *hujus Dei*, &c.

It maketh its vocative case *o Deus*, and wanteth the plural number, because *Deus verus caret plurali*. It cometh before the verb *vetuit*.

*Vetuit* is a verb personal neuter, of the indicative mood, preterperfect tense, singular number and third person, because it agreeth with its nominative case *Deus* by the rule *Verbum personale coheret, &c.* It is of the first conjugation: *Veto, vetas, vetui; (veto quod vetui dat) vetare; vetandi, vetando, vetandum, vetitum, vetitu; (Quod dat ui dat itum,) vetans vetiturus.*

*Vos* is a prounoun primitive, of the plural number, the accusative case, the masculine gender, and the first declension: Sing. nom., *tu*; gen., *tui*, &c. It hath the vocative case: *Et pronomina præter, &c.* It is of the accusative case after *vetuit* because *verba transitiva, &c.*

*Vesci* is a verb deponent like *legi*: *Vescor, vesceris, vel vescere, pastus sum vel fui, vesci pastus vescendus*, because *sic poscunt vescor, medeor, &c.* It is of the infinitive mood and present tense, without number and person, and is governed of *vetuit*, because *quibusdam tum verbis, &c.*

*Ex* is a preposition serving to the ablative case.

*Omnibus* is a noun adjective of three articles like *tristibus*: *Hic et hoc omnis, et hoc omne*, because *sub-geminā, &c.*

It is of the plural number, the ablative case and feminine gender, and agreeth with its substantive *arboribus*, because *adjectivum cum substantivo, &c.*

*Arboribus* is a noun substantive common like *lapidibus*: Sing. nom., *hec arbor*; gen., *hujus arboris, &c.*; *grando, fides, &c.* It is of the ablative case, singular number, feminine gender and third declension, governed of *ex*, the preposition which requireth an ablative case.

*Pomarii* is a noun substantive common like *regnis*: Sing. nom., *hoc pomarium*; gen., *hujus pomarii, &c.*; *omne quod exit in um, &c.* It is of the singular number, the genitive case, the neuter gender and second declension, and is governed of the substantive *arboribus*, because *quum duo substantiva, &c.*

*Licet* is a verb impersonal declined in the third person singular only: *Licet, licetabat, licuit et licitum est, &c.; et licet adde, quod licuit, licitum.* It is of the indicative mood, present tense, singular number and third person, and hath no nominative case, because *impersonalis præcedentem, &c.*

*Nobis* is a prounoun primitive, of the plural number, dative case, masculine gender and first declension: Sing. nom., *ego*; gen., *mei*. It wants the vocative case because *et pronomina, &c.*; and is governed of *licet* because *in dativum renunt, &c.*

*Vesci ut suprā.*

*Fructibus* is a noun substantive common like *manibus*: Sing. nom., *hic fructus*; gen., *hujus fructus, &c.*; *mascula in er, &c.* It is of the ablative case, plural number, masculine gender and fourth declension, governed of *vesci*, because *fugor, fruor, utor, &c.*

*Arborum ut supra in arboribus.* It is of the genitive case plural, governed of *fructibus*, because *quum duo substantiva, &c.*

*Pomarii ut suprā.*

*Tantum* is an adverb of quantity made of an adjective of the neuter gender, because *aliquando neutra adjectiva, &c.*

*Deus ut suprā*, but here it cometh before the verb *interdixit*.

*Interdixi* is a verb personal active compounded of *inter* and *dico*, conjugated like *legit*: *Interdico, is, xi, because præteritum dat idem, &c.; interdixi interdic-*

*tum*, because *compositum ut simplex*, &c. It is of the indicative mood, preterperfect tense, singular number and third person, and agreeeth with its nominative case *Deus*, because *verbum personale*, &c.

*Nobis ut suprā*, but here it is the dative case, governed of *interdixit*, because *dativum postulant*, &c.

*Eā* is a pronoun primitive of the second declension: Sing. nom., *is*, *ea*, *id*; gen., *ejus*, &c. It is of the singular number, ablative case and feminine gender, and agreeeth with its substantive *arbore*, because *ad eundem modum*, &c.

*Arbore ut suprā*, but here it is the ablative case singular, governed of *interdixit*, which verb doth often govern a dative case with an ablative, though we have no express rule for it in our grammar.

*Quae* is a pronoun relative of the second declension: Sing. nom., *qui*, *qua*, *quod*; gen., *cujus*, &c. It is of the singular number, feminine gender, and third person, and agreeeth therein with its antecedent *arbore*, because *relativum cum antecedente*, &c. It is of the nominative case, and cometh before the verb *est*, because *quoties nullus nominativus*, &c.

*Est* is a verb personal neuter substantive, having a proper manner of declining: *Sum, es, fui*, &c., because *et à suo sum fui*. It is of the indicative mood, present tense, singular number and third person, and agreeeth with its nominative case *qua*, because *verbum personale*, &c.

*In* is a preposition serving to the ablative case.

*Medio* is a noun adjective of three terminations like *bono*: Sing. nom., *me- dius*, *media*, *medium*, &c.

*At si tres variant voces*, &c. It is of the ablative case, neuter gender and singular number, and agreeeth with its substantive *pomario*, because *adjectivum cum substantivo*. *Pomario ut suprā*, but here it is of the ablative case because *in* is a preposition serving to the ablative case.

*Ne* is an adverb of forbidding, and governeth a subjunctive mood: *Ne prohibendi*, &c.

*Vesceremur ut suprā in vesci*, but here it is of the subjunctive mood, preterimperfect tense, plural number and first person, like *legeremur*, and agreeeth with its nominative case *nos*, which is not expressed, because *nominativus primæ vel secundæ persona*, &c.

*Fructu ut suprā*, but here it is of the ablative case singular, governed of *vesceremur*, because *fungor, fruor*, &c.

*Ejus ut suprā in eā*, but here it is of the genitive case singular and feminine gender, governed of *fructu*, because *quum duo substantiva*, &c. Here note that *eius* is a relative, and agreeeth with its antecedent *arboris*, understood.

*Néve* consisteth of two words whereof *ne* is an adverb of forbidding, and *ve* is an inclinative conjunction.

*Etiam* is a conjunction copulative.

*Attingeremus* is a verb personal active like *legeremus*. It is compounded of *ad* and *tango*, and maketh *at* for *ad* for better sound's sake, and *tingo* for *tango*, because *hac habeo, lateo*, &c. It maketh the preterperfect tense *attigi* and not *attetigi*, because *sed syllaba semper*, &c.; and the supines *attactum, attactu*, because *compositum ut simplex*, &c. It is of the subjunctive mood, preterimperfect tense, plural number and first person, and agreeeth with its nominative case *nos* which is understood, because *nominativus primæ vel secundæ persona*, &c.

*Nisi* is a conjunction exceptive, and serveth to a subjunctive mood: *Ni, nisi, si, siquidem*, &c.

*Vellemus* is a verb personal neuter irregular: *Volo, vis, volui*, because *lo fit, ui, &c.*; *supinis caret*, because *psallo, volo, nolo, &c.* It is of the subjunctive mood, preterimperfect tense, plural number and first person, and agreeeth with its nominative case *nos* which is understood, because *nominativus primæ, &c.*

*Mori* is a verb personal deponent of the third conjugation like *legi*: *Morior, moreris vel morere, mortuus sum vel fuī, (moriōrque mortuus) mori, moriens, mortuus, moriturus.* It is of the infinitive mood, having neither number, nor person, nor nominative case, and is governed of *vellemus*, because *quibusdam tum verbis, &c.*

Thus let every particular boy in a form practice awhile by himself upon a several piece of Latin, and it will show you plainly what he is able to do, and make that the most negligent and heedless amongst them shall know how to make perfect use of his whole grammar, though, perhaps, for all you could do to him he never heeded it before.

What I have hitherto mentioned touching the well grounding of children hath chiefly respect unto *Lilly's Grammar*, which is yet constantly made use of in most schools in England, and from which I think it not good for any master to decline, either in a private or public course of teaching, for these reasons following:

1. Because no man can be assured that either his scholars will stick to him, or that he shall continue with them, till he have perfectly trained them up by another grammar.

2. Because if children be made to change their grammars as often as they use to change their masters, (especially in a place where many schools are,) they will be like those that run from room to room in a labyrinth who know not whether they go backward or forward, nor which way to take toward the door—I mean, they may be long conversant in grammar books, and never understand the art itself.

3. Because I have known many, and those men of excellent abilities for grammar learning, w<sup>t</sup>h, having endeavored to proceed by an easier way than *Lilly's* is, have been quite decried by the generality of them that hold to the common grammar, and have had much ado to bear up the credit of their school, though their scholars have been found to make very good proficiency, and more than others.

4. Because when a master hath grounded a scholar never so well, if he (in hopes of an exhibition or scholarship, or other preferment to be had) be removed from him to one of our greater schools, he shall be made, *pro formā*, to get *Lilly's Grammar* by heart, and to neglect what he hath formerly learned as unnecessary and useless.

5. Because children in their tender age are generally like leaking vessels, and no sooner do they receive any instructions of grammar but they forget them as quickly, till by frequent repetitions and examinations they be riveted into them, and by assiduity of long practice brought to a habit which can not be bred in them under two or three years' time, in which space they may be as well habituated and perfected by *Lilly's Grammar* as any other, according to the platform of teaching it which I have already showed, and by means of those helps which I have published for the better explication of some parts of it.

Yet I do not deny but a far easier way may be taken to teach children, first, the grounds and rudiments, and afterward, the whole system of grammar,

than that which is generally now in use according to *Lilly*, whom after I had observed many eminent schoolmasters (who have published grammars of their own) to condemn of many tautologies, 'defects and errors, and withal, to endeavor to retain the substance of his grammar, I essayed myself to see what might be done in that kind, with an especial eye upon the slender capacities of children with whom I had to do. And after trial was made that such instruments would forward my work, I was bold to publish first, *An Easy Entrance to the Latin Tongue*, and then *The Latin Grammar Fitted for the Use of Schools*, which how I have for sundry years taught, together with *Lilly's Grammar*, I shall now briefly declare:

1. As children are going over the *Accidentis* and that part of the grammar which concerneth the genders of nouns and the preterperfect tense, and supines of verbs, I make them one day to peruse that part of the grounds of grammar which concerneth the eight parts of speech severally handled, and another day to read that which concerneth their construction, and every Saturday morning to run over their examination, which being but a task of about half an hour doth exceedingly help their understanding and memory in getting their everyday parts and keeping them in mind, especially if they be made sometimes to look upon their synopsis, and thereby to take notice how handsomely and orderly the rules hang together.

2. Likewise, as children proceed in *Lilly's Grammar*, (which commonly is but very slowly, because it being all in Latin is hard to be understood, and being somewhat long in learning, boys are apt to forget one end of it before they can come to another,) I cause them to make use of the *Latin Grammar*, which I fitted to the use of schools together with it. This I usually divide into twelve or sixteen parts, (letting the appendix alone till they understand all the rest,) in reading of which I cause them to spend half an hour for the most part every day, and by comparing what they read with that in *Lilly's Grammar*, I make them to observe how what they learn in Lilly ought rightly to be placed according to the true method of grammar art which they see analyzed in the synopsis. They may first read it over in English only, and then in Latin and English together, and afterward only in Latin. And because frequent examination is a main expedient to fasten what is taught, I cause them every Saturday morning to make use of *Examinatio Latinae Grammaticae*, (which is now lately printed,) and let one boy ask the questions out of the book, and the rest answer him orderly out of the grammars in their hands. And this I find, that a natural and clear method of teaching grammar is the best means that can be devised to open the understanding for the receiving, or to strengthen the memory for the retaining, of any instructions that can be given concerning it. And I judge that method to be most natural and easy which doth at once lay open the subject that it treateth of, and enlighten a mean capacity to apprehend it on a sudden; and which hath withal a power in itself, that whether the discourse upon the matter be more contracted or enlarged, it can bring all that can be said of it under a few certain and general heads by way of commonplace, which being surely kept in mind, all other documents depending on them as particulars will easily be remembered.

Thus have I freely imparted my thoughts touching the most familiar way that I have hitherto known (either by my masters, or my own practice, or any thing that I have observed by reading or converse with experienced school-

masters) of teaching the common grammar, and making use of those ordinary school-books in every form which are taught in most schools in England. And because it belongs chiefly to the usher in most of our grammar schools to teach children to understand and make use of their grammar, and by degrees to furnish them with proper words or good phrase, that they may be able of themselves to write or speak true Latin, or translate either way pretty elegantly before they come under the master, I call this part of my discovery *The Usher's Duty*, wherein he may plainly see how he ought to respect the end, the means, and the manner how to use every help or mean for the better dispatch of that which he is continually employed about, viz., the well grounding of children in grammar learning, which may be done in three years with the ordinary sort of boys, even those of the meanest capacity if discretion in every particular be used, which is beyond any directions that can be given. So that under the usher I admit of three forms: the first, of enterers; the second, of practitioners; the third, of proficients in the knowledge of grammar.

Having done therefore with grounding children, (whose inadvertency is the teacher's daily trouble, and not to mention their other infirmities, requireth that they be held long in one and the same work, and be made ever and anon to repeat again what they formerly learned,) I shall next add somewhat concerning teaching men at spare hours in private, with whom (by reason of their stronger capacities and more use of reason) a far speedier course may be taken, and greater proficiency may be made in half a year, than can be expected from children in three years' space. And what I shall here deliver is confirmed by that experiment which I have made with many young gentlemen for these eleven or twelve years together last past in London, who being very sensible of their own want of the Latin tongue, and desirous (if possible) to attain it, have thought no cost nor pains too much to be employed for gaining it, and yet in a few months they have either been so grounded as to be able to help themselves in a plain author in case they knew nothing before, or so perfected as to grapple with the most difficult and exactest authors in case they had formerly but a smattering of the language, and this they have obtained at leisure time, and at far less expense, than they now prize the jewel at which they have. In teaching a man, then, I require none of those helps which I have provided for children's use, (though perhaps he may find benefit to himself by perusing them in private,) only I desire him at the first to get an easy entrance to the Latin tongue, and by it I show him as briefly, orderly and plainly as I can,

1. How he ought to distinguish words so as to know what part of speech any word is.
2. To tell what belongeth to every several part of speech.
3. To get the examples of the declensions and conjugations very exactly so as to know what any noun or verb signifieth according to its termination, and to store him with words, I advise him to peruse a chapter in the *Vocabulary* at least once every day, and to observe the Latin names of such things as are common in use and better known to him.
4. Then I acquaint him with the most general rules of concordance and construction, and help him to understand them by sundry short examples applicable thereto.
5. Last of all I cause him to take some of the *Collectanea*, and help him to construe, parse, imitate, and alter them until he be able to adventure upon some easy author.

After he be thus made well acquainted with the grounds of grammar, I bid him to procure the *Latin Grammar* fitted for his use as well as for schools, and together with it a Latin Testament or Bible, and then I cause him to read over his grammar, (by as much at once as he can well peruse in half an hour,) and be sure that he thoroughly understand it, and after every one of the four parts of grammar I give him a *praxis* of it, by exercising whereof he may easily know how to use his rules and where to find them.

When by this means he can tell what to do with his grammar, I turn him to the Latin Testament, (beginning with the first chapter of Saint John's Gospel because it is most easy,) and there I make him (by giving him some few directions which he hath, together with his grounds of grammar) learn to construe of himself six, eight, or ten verses, with the help of his English Bible, and to parse them exactly according to his grammar, and by going over three or four chapters he will be able to proceed understandingly in his Latin Bible without help.

Which when he can do I advise him to get *Corderius*, English and Latin, where he is chiefly to take notice of the phrases how they differ in both languages, and to imitate here and there a colloquy to try what good Latin he can write or speak himself. And now I command to his own private reading *Dialogi Gallico Anglo-Latini*, by Dugres: *Dictionarium octo lingue*, or *The Schoolmaster*, printed formerly by Michael Sparks, and *Janua Linguarum*, or rather *Janua Latinae linguae*, and the like, by perusal of which, together with *Corderius*, he may be furnished with a copy of words and phrases for common discourse in Latin. Afterward I help him in reading *Aesop's Fables* to construe and parse, and imitate a period or more in any of them, thereby to acquaint himself with the artificial manner of placing words. And when I see he dare adventure upon the Latin alone, I make him read *Terence* over and over, and to observe all the difficulties of grammar that he meets in him, and after he is once master of his style he will be pretty well able for any Latin book, of which I allow him to take his choice, whether he will read *Tully*, *Pliny*, *Seneca*, or *Lipsius* for epistles; *Justin*, *Sallust*, *Lucius Florus*, or *Cesar* for history; *Virgil*, *Ovid*, *Lucan*, or *Horace* for poetry.

And when I see he can read these understandingly, I judge him able to peruse any Latin author of himself by the help of *Cooper's Dictionary* and good commentators or scholiasts.

These authors which I have mentioned are most of them in English, as also *Livy*, *Pliny's Natural History*, *Tacitus*, and other excellent books, which he may peruse, together with the Latin, and by comparing both languages together he may become very expert in both. Yet I would advise him to translate some little books himself, first out of Latin into English, and then out of English into Latin, which will at once furnish him with all points of grammar, and the right use and ordering of words, and in a short time bring him to the like eloquence.

Mr. Aschan commendeth *Tully de senectute* and his epistles, *ad Quintum Fratrem et ad Lentulum*, for this purpose.

If he would exercise himself in oratory or poetry, I suppose his best way is to imitate the most excellent pieces of either that he finds in the best and purest authors (especially *Tully* and *Virgil*) till he can do well of himself. *Horace* and *Buchanan's Psalms* will sufficiently store him with a variety of verses.

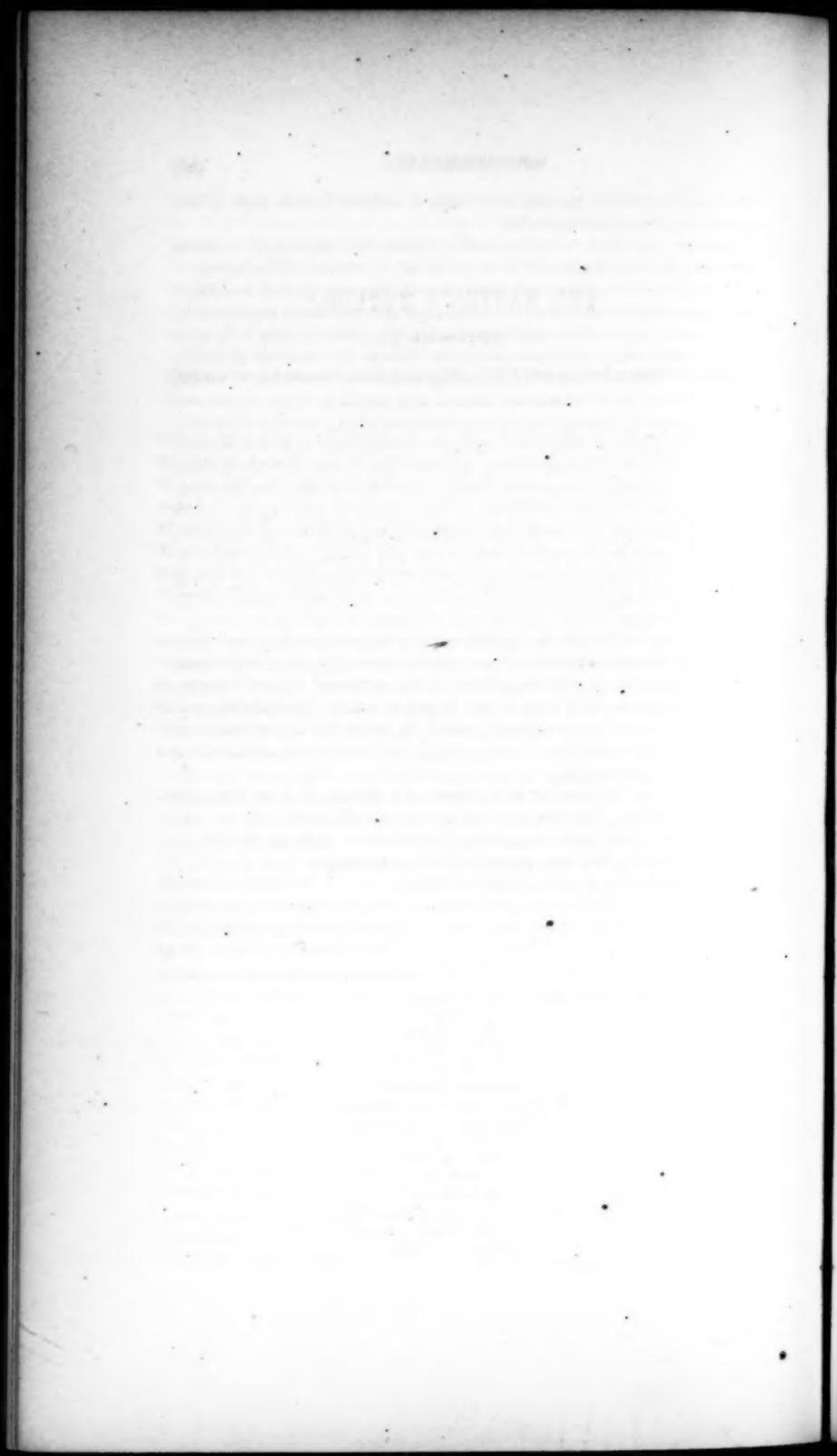
And now if one should ask me before I conclude this book and begin with

the next, whether it be not possible for men or children to learn Latin as well as English without grammar rules?

I answer, first, that it is hardly possible, because the Latin tongue is not so familiarly spoken as English, which is gotten only by hearing and imitation.

2. That it is not the better way, partly because they that are well acquainted with grammar know when they or others speak well and when they speak ill, whereas, they that are ignorant of the rules take any Latin for good, be it never so barbarous or full of solecisms; and partly because they that are skillful in grammar are able to do something in reading authors or translating, or writing epistles, or the like, by themselves, whereas, they that learn Latin without any rule are able to do nothing surely if their teacher be away. Besides, if the Latin be once well gotten by rule, it is not so apt to be forgotten as if it be learned only by rote, because the learner is at any time able to recover what he hath lost by the help of his own intellect, having the habit of grammar in his mind. Yet I conceive it is the readiest way to the gaining of this language to join assiduity of speaking and reading and writing, and especially double translating to the rules, for as the one affordeth us words and phrases, and the other directs us how to order them for a right speech, so the exercise of both will at last beget such a habit in us, that we may increase our ability to speak and understand pure Latin, though perhaps the rules of grammar be forgotten by us.

Having here done with *The Usher's Duty*, I shall (God willing) go on to discover *The Master's Method* in every particular according to what I have either practiced myself, or observed from others of my profession. And I hope this my slender discovery will excite some of greater practice and experience to commit also to public their own observations, by whom if I may be convinced that I have any where gone in an erroneous way I shall willingly retract my course, and endeavor to steer by any man's chart that I find more easy and sure to direct me. In the meantime I commit my little vessel to the waters all alone, and desire God that whatever dangers attend it, he would so protect and prosper it that it may safely arrive to the port which I chiefly aim at, viz., the honor and service of his divine majesty, and the benefiting of both church and commonwealth in the good education of children.



## THE MASTER'S METHOD.\*

BY CHARLES HOOLE, A. M.,

Master of Grammar School at Rotherham in 1636, and of a Private School in London in 1660.

CHAPTER I.—*How to make the Scholars of the fourth Form very perfect in the art of Grammar and elements of Rhetoric; and how to enter them upon Greek in an easy way. How to practice them (as they read Terence, and Ovid de Tristibus, and his Metamorphosis, and Janua Latine lingue, and Sturmius, and Textor's Epistles) in getting copy of words, and learning their derivations and differences, and in varying phrases. How to show them the right way of double translating, and writing a most pure Latin style. How to acquaint them with all sorts of English and Latin verses, and to enable them to write familiar and elegant epistles either in English or Latin, upon all occasions.*

The usher having thoroughly performed his duty, so as to lay a sure foundation by teaching grammar and lower authors, and using other helps forementioned to acquaint his scholars with the words and order of the Latin tongue, as well for speaking as writing it; the master may more cheerfully proceed to build further, and in so doing, he should be as careful to keep what is well gotten, as diligent to add therunto. I would advise therefore that the scholars of this fourth form may,

1. Every morning read six or ten verses (as formerly) out of the Latin Testament into English, that thus they may become well acquainted with the matter and words of that most holy Book; and after they are acquainted with the Greek Testament, they may proceed with it in like manner.

2. Every Thursday morning repeat a part out of the Latin Grammar, according as it is last divided, that by that means they may constantly say it over once every quarter. And because their wits are now ripe for understanding grammar notions wherever they meet with them, I would have them every one to

\* The following is a copy of the original title page:—

THE  
MASTERS  
METHOD,  
OR THE  
Exercising of Scholars  
In GRAMMARS, Authors,  
and Exercises; GREEK,  
LATINE, and  
HEBREW.  
By C. H.  
LONDON,  
Printed by J. T. for Andrew Crook,  
at the Green Dragon in Pauls  
Church Yard, 1630.

provide a paper book of two quires in quarto, in the beginning whereof they should write the heads of grammar by way of common-place, as they see it in my Latin Grammar, and having noted the pages, they should again write over the same heads, (leaving a larger or less distance betwixt them, as they conceive they may find more or less matter to fill them withal) in the leaves of their book, and insert all niceties of grammar that they find either in their daily lessons or in perusing other books at spare hours, especially such as either methodically or critically treat of grammar; amongst which I commend Mr. Brinsley's *Posing of the Accidents*, the *Animadversions upon Lilly's Grammar*, *Stockwood's Disputations*, Mr. Poole's *English Accidents*, *Hermes' Anglo-Latinus*, *Phalerii Supplementa ad Grammaticam*, Mr. Bird's, Mr. Shirley's, Mr. Burley's, Mr. Hawkins', Mr. Gregory's, Mr. Hayne's, Mr. Dane's, Mr. Farnaby's, and other late printed new Grammars, (which they may read in private one after another) will afford them several observations. As for *Authores Grammaticae Antiqui*, which are commonly printed together; *Dispauterius*, *Linacer*, *Melanthon*, *Valerius*, *Alvarez*, *Rhemus*, *Sulpitius*, *Vossius*, and the like, either ancient or modern, they may take the opportunity to read them, after they come to higher forms, and pick out of them such pretty notes as they have not formerly met withal, and write them in their common-place book. And because it may seem a needless labor for every scholar to be thus employed, and it is (almost) impossible for one alone to procure so many grammars, it were to be wished that in every school of note there might be a library, wherein all the best grammars that can be gotten might be kept, and lent to those boys that are more industriously addicted to grammar art, and which intend to be scholars, that they may read them over, and refer what they like in them to its proper head. And to encourage them in so doing, the master may do well at the first to direct them, and afterwards at leisure times to cast an eye upon their books, and see what they have collected of themselves. But be sure that they keep their paper book fair, and that they write constantly in it, with a legible and even hand.

3. Thus they may have liberty to learn Rhetoric on Mondays, Tuesdays and Wednesdays, for morning parts. And to enter them in that art of fine speaking, they may make use of *Elementa Rhetorices*, lately printed by Mr. Dugard, and out of it learn the tropes and figures, according to the definitions given by *Taleus*, and afterwards more illustrated by Mr. Butler. Out of either of which books they may be helped with store of examples to explain the definitions, so as they may know any trope or figure that they meet with in their own authors. When they have thoroughly learnt that little book, they may make a synopsis of it, whereby to see its order, and how every thing hangs together, and then write the common-place heads in a paper book (as I have mentioned before touching Grammar) unto which they may refer whatever they like in the late *English Rhetoric*, Mr. Farnaby's *Index Rhetorius*, *Susenbrotus*, Mr. Horne's *Compendium Rhetorices*, or the like, till they be better able to peruse other authors that more fully treat of the art, as, *Vossius' Partitiones Oratoriae*, *Orator extemporeneus*, *Tesmari exercitationes Rhetoricae*, *Nic. Caussinus*, *Paiot de eloquentia*, and many others; with which a school library should be very well furnished for the scholars to make use on, according as they increase in ability of learning.

These *Elementa Rhetorices*, in their first going over, should be explained by

the master, and construed by the scholars, and every example compared with its definition. And the scholars should now be diligent of themselves to observe every trope and figure that occur in their present authors, and when they say, to render it with its full definition, and if any be more eminent and worthy of observation than others, to write it down in their common-place book, and by this means they will come to the perfect understanding of them in a quarter of a year's time, and with more ease commit it all to memory by constant parts, saying a whole chapter together at once; which afterwards they may keep by constant repetitions, as they do their grammar.

4. When they have passed their Rhetoric, you may let them bestow those hours, which they spent about it, in getting the Greek Grammar for morning parts. And because in learning this language, as well as the Latin, we are to proceed by one rule, which is most common and certain, I prefer *Camden's Greek Grammar* before any that I have yet seen, (though perhaps it be not so facile or so complete as some later printed, especially those that are set out by my worthy friends, Mr. Busbie of Westminster, and Mr. Dugard of Merchant Tailors' School) in the first going over of which, I would have them to repeat only the Greek letters, and their divisions, the accents, and eight parts of speech, the articles, declensions, and conjugations, the adverbs, conjunctions, and prepositions by several parts, as they are best able to get them, and to write down as much as they can say at once in a fair paper book, very exactly observing and marking every accent and note of distinction. And this will quickly enable them to write or read Greek very truly, especially if they mind the abbreviated characters, which are now lately printed at the end of most of these grammars. This work will take up about a quarter of a year's time.

In the next half year they may get over the whole grammar in that order, as it is printed. And in the interim thereof, they may make use of their Greek Testament every morning after prayers, in like manner as they formerly used their Latin one. They may begin with the Gospel of St. John, which at the first you may help them to construe and parse verbatim, but after a while when they have gathered strength to do somewhat of themselves, you may let them make use of *Pasor's Lexicon*, which they will better do by help of the *Themes*, which I caused to be printed in the margin of the Greek Testament, which will lead them to *Pasor*, to see the analysis of any word in the Testament. Mr Dugard hath lately completed his *Lexicon Graeci Testamenti Alphabeticum, una cum explicatione Grammaticâ vocum singularum, in usum Tironum; nec non concordantia singulis vocibus apposita, in usum Theologie candidatorum*; which, were it once committed to the press, as it now lieth ready in his hand, would be a most excellent help to young scholars to proceed in the Greek Testament of themselves, in an understanding and grammatical way. And I hope it will not be long ere he publish it for common use. When they have gone over the declensions and conjugations, and are able to write Greek in a very fair and legible character, let them write out the paradigmes of every declension and conjugation, and divide the movable part of the words from the terminations, as you may see it done in Mr. Dugard's *Rudimenta Grammaticæ Graecæ*. After they are thus acquainted with every particular example, they may write out all the declensions one by another, and the three voices of the verbs throughout all moods and tenses in all conjugations, that so they may more readily compare

them one by another, and see what tenses are alike or which are wanting in every voice. If these things were drawn into tables, to be hung up in the school, they would help the weaker boys.

And to supply them with store of nouns and verbs, you may let them repeat as many nouns as they can well get at once, out of Mr. Gregorie's *Nomenclatura*; and afterwards as many sentences as they can well say at once, out of *Seideius*, or the latter end of *Clavis Graecæ lingua*, by the repeating, construing and parsing, whereof they will learn all the primitive words of the Greek tongue, and be able to decline them. And thus they will be very well fitted to fall upon any approved Greek author, when they come into the next form. But if you would have them learn to speak Greek, let them make use of *Posselius' Dialogues*, or Mr. Shirley's *Introductorium*, in English, Latin and Greek. I commonly appointed Tuesday and Thursday afternoons for this employment, before or after my scholars had performed their other tasks.

5. *Terence*, of all the school authors that we read, doth deservedly challenge the first place, not only because *Tully* himself hath seemed to derive his eloquence from him, and many noble Romans are reported to have assisted him in making his Comedies; but also because that book is the very quintessence of familiar Latin, and very apt to express the most of our Anglicisms withal. The matter of it is full of morality, and the several actors therein most lively, seem to personate the behavior and properties of sundry of the like sort of people, even in this age of ours. I would have the scholars therefore of this form to read him so thoroughly as to make him wholly their own. To help them in so doing, I have rendered a good part of it into English, answerable to the Latin line by line, in the adverse page, and I intend (God willing) ere long to complete the whole, according to what I have formerly undertaken and promised.

This author I would have the scholars to read constantly every Monday, Tuesday, Wednesday and Thursday, for forenoon lessons, taking about half a page at once, till they begin to relish him, and then they will easily take more, and delight to be exercised in him in this manner.

1. Let them write out every lesson very fair and exactly, as they see it printed before them both in English and Latin. And this will be a means to perfect them in orthography, and to imprint what they learn in that author in their minds. They should have a quarto paper book for this purpose, wherein nothing else should be written.

2. Let them translate about four or six lines grammatically in a loose paper, that by this means they may better take notice of the way of construing.

3. Let them construe the whole lesson, both grammatically and according to the phrase, and this will acquaint them with the proprieties of both tongues.

4. Let them parse it according to the grammatical order, examining every word to the utmost of what grammar teacheth concerning it, and this will make them thoroughly to understand Lillie, and sometimes to consult other grammars, where he comes short in a rule.

5. Let them cull out the most significant words and phrases, and write them in a pocket-book, with figures referring where to find them in their author; and let them ever and anon be conning these by heart, because these (of all others) will stand them in most stead for speaking Latin, or writing colloquies and epistles.

In reading this book, it is not amiss for the master to remind his scholars of

the true decorum of both things and words, and how fitting they are for such persons to do or speak as are there represented, and upon such occasions as they did and spake them. As in *Andria*, they may observe not only in general, how apt young men are to be enticed, old men to chide, servants to deceive, &c, but more particularly they may see how some men are more apt to be carried away by passion than others are, and how different their natures are sometimes, though their age and breeding may be the same. Thus they shall find Simo and Chremes, two old citizens, the one pettish and apt to overshoot himself in many things, the other more calm and circumspect, and therefore better able to pacify and advise others. Likewise they shall meet with two young gentlemen, Pamphilus and Charinus, the one whereof, being veryowardly and hopeful, was drawn away by ill company, and thereby brought into much trouble of mind, betwixt a fear to offend his father and a care to make amends for his fault committed; but the other being rash and childishly disposed, is set upon what he desireth with such eagerness that he will have it, though it be impossible for him to obtain it, and he be utterly ignorant of using any means to come by it. But above all, they will laugh at the knave Davus, to read how he, presuming upon his own cunning-wit, displeaseth Simo and ensnareth Pamphilus, and at last brings himself within the compass of the lash. And in this and other comedies, they may observe many remarkable sayings and actions, which will hint much to abundant matter of invention for future exercises. As when they hear Davus cry, *Hem asthius! Fie upon craft!* they may take an occasion to enlarge upon the matter, as to say: "One may quickly perceive, by Davus in *Terence*, what a mischievous wit will come to, that doth always busy itself to circumvent and entrap others; for this fellow, after he had cozened his old master, and unhappily taught his master's son to tell his father a lie, and entangle himself in a double marriage, and saw his knavery could not help him to escape his own danger, was ready at last to hang himself; and though he came off pretty well with his young master, by condemning himself and asking forgiveness, and promising to amend the matter he had utterly spoiled; yet in the height of his jollity, the old man catcheth him unawares, and without hearing him speak a word for himself, calleth for Dromo, and makes him hoist him up, and carry him away to the house of correction, and there to tie him neck and heels together, and whip him smartly for the roguery he had done." Such dictates as these the master may give his scholars sometimes to turn into pure Latin, till they be able to make the like of themselves. And this is indeed to make a true use of this excellent author, according to what Erasmus directs in his golden little book, *De Ratione instituendi Discipulos*, which is worth one's perusal that is exercised in teaching youth.

When you meet with an act or scene that is full of affection and action, you may cause some of your scholars, after they have learned it, to act it, first in private amongst themselves, and afterwards in the open school before their fellows; and herein you must have a main care of their pronunciation, and acting every gesture to the very life. This acting of a piece of a comedy or a colloquy sometimes, will be an excellent means to prepare them to pronounce orations with grace, and I have found it an especial remedy to expel that rustic bashfulness and unresistible timorousness which some children are naturally possessed withal, and which is apt in riper years to drown many good parts in men of singular endowments.

6. Their afternoon parts, on Mondays and Wednesdays, may be in *Janua Latinae Linguae*, which book should be often read over, because it will at once furnish them with the knowledge of words and things, into the reasons of which they will now be more industriously inquisitive than formerly; because their present years teach them to be more discursive in their understanding, as growing more towards men. And therefore in this book they should not only first mind the signification and grammatical construction of words, but secondly, endeavor to gain a copy of good and proper words for expression of one and the same thing, so that they may not only tell you that *domus* but also *edes* is Latin for a house, and that *decor* and *pulchritudo* are Latin for beauty as well as *forma*; and in finding such synonyms as these, they may be helped as well by dictionaries as by frequent reading. Thirdly, they may with every part bring a piece of the index translated into English. Fourthly, because they must now begin to use their judgment in the right choice of words, (when they find many heaped together) it were not amiss to let them inquire the original out of Rider's *Latin Dictionary*, or Beckman's *de Originibus Latinae linguae*; and to consider the differences that are betwixt words of the same signification; which they may learn out of *Ausonius Popma*, *Laurentius Valla*, *Cornelius Fronto*, *Varro de lingua Latina*, and the like books fit to be kept in the school library.

7. On Tuesdays and Thursdays, in the afternoon, I would have this form employed in some of Tully's *Epistles*, (either those collected formerly by Sturmius, or those of late made use of in Westminster School); but Sturmius's I rather prefer as more easy to begin withal; the others may be used afterwards, together with Textor's *Epistles*. And

1. I would have them be exercised in double translating these Epistles, so as to render many of them into good English, and after a while to turn the same again into Latin, and to try how near they can come to their author in the right choice and orderly placing of words in every distinct period. And because the author's style and expression will in many particulars seem hard to those that have not formerly read some of his Epistles, I have thought good at first to give my scholars a taste of an epistolary style, by translating *A Century of Select Epistles*, out of Tully and other choice authors, making the English answer to the Latin, period by period. And these I cause them to write over, and in so doing, to take notice of the placing of every word, and its manner of signification. By this means they both better themselves in orthography, and easily become so acquainted with Tully's expressions, that they can adventure to construe any of his epistles of themselves, and turn them into English, as they see I have done the like before them.

2. Then do I cause them (as I said) to make double translations of themselves; one while writing down both the English and Latin together, as they construe it, (which some call metaphrasis, an example or two whereof you may see in Merchant Tailors' School *Probation*) and another while, and most frequently, writing the English out of the Latin by itself, which, within ten days after, they try how to turn into the like good Latin again. And this is the way that Mr. Brinsley so much commendeth, and Mr. Aschan was moved to think to be only or chiefly the fittest for the speedy and perfect attaining of any tongue.

3. After they are grown pretty quick in translating both ways, you may write them down a little English epistle of like matter and words to that in

their book, directed to some of their own acquaintance, which they may turn into Latin, period after period, by themselves. To begin therefore with the first Epistle in *Sturmius*, which may be written down, translated thus:—

*M. T. C. Terentia, Salutem plurimam dicit.*

Mark Tully Cicero sendeth hearty commendations (to his wife) *Terentia*.

*Si vales, bene est, ego valeo.*

If you be in good health, it is well: I am in good health.

*Nos quotidie tabellariorum vestros expectamus, qui si venerint, forlasse erimus certiores, quid nobis faciendum sit, faciemusque te statim certiores.*

We every day expect your letter-posts; when, if they come, we shall be perhaps more certain what we are to do, and we will certify you forthwith.

*Valeatudinem tuam cura diligenter, vale.*

Look diligently to your health, farewell.

*Calendis Septembri.*

The first day of September.

And you may show them how to imitate it, (observing our English manner of writing letters) thus:

To his very loving friend Mr. Stephen Primato, at the Seven Stars, near Newgate, London, these.

*Amantissimo suo amico Domino Stephano Primato ad insigne Septentrionum iuxta novam portam Londinensem, hasce dabis.*

Most sweet Stephen:—

If you be all in good health at London, it is very well; we are all very well at Barnet: the Lord God be praised.

*Stephane mellitissime:—*

*Si vos omnes Londini valetis, optimè est; nos quidem omnes Barnetæ valemus: Laudetur Dominus Deus.*

I have every day expected a letter from you, for this whole week together, which, if it come, is like to be very welcome to me; I pray you therefore write to me and let me know what you do, and I will write back again to you forthwith.

*Ego quotidie literas tuas, per hanc totam hebdomadem expectavi; quæ si venerint gratissimæ mihi futurae sunt; oro igitur ut ad me scribas, et certiores me facias, quid agis, et ego statim ad te rescribam.*

Give your mind diligently to learning. Farewell heartily.

*Studio literarum diligenter incumbe. Vale feliciter*

Your most loving friend

*Amantissimus tuus amicus*

*Barnetæ, Octob. 4, 1659.*

ROBERT BURROWS.

ROBERTUS BURROWS.

They may imitate the same epistle again in framing an answer to the particulars of the foregoing letter after this manner, observing the form of composition rather than the words.

To his very much respected friend Mr. Robert Burrows, near the Mitre at Barnet, these deliver.

*Observantissimo suo amico Roberto Burrowes, hanc ita procul à Mitre Barnetæ, hasce dabis.*

Dear Robert:—

I am very glad I am certified by your letter that you and all our friends are in good health. Lo, I have now at last sent you my letter, which I am sorry

that I have made you so long to look for before it came to your hand. And forasmuch as you desire to know what I do, I thought good to certify you that I am wholly busied at my book, insomuch as I could willingly find in my heart to die at my studies: so true is that which we sometimes learned in our *Accidents*—To know much is the most pleasant and sweetest life of all. You need not, therefore, persuade me further to give my mind to learning, which (truly to speak plainly) I had much rather have than all, even the most precious jewels in the world. Farewell, and write as often as you can to

Your very loving friend,

STEPHEN PRIMATE.

Charissime Roberte:—

*Quod ex tuis literis certior fiam, te, et omnes nostros bene valere, magnopere gaudeo. Ecce, nostras, jam tandem ad te misi. Quas, quoniam in causâ fui, ut diutius exspectes, priusquam ad vos venerint, vehementer doleo. Cum autem quid ego agam, scire cupias; certiorem facere velim, me totum in libris esse occupatum; usque adeo, ut vel emori studiis mihi dulce erit: Ita verum est, quod è Rudimentis Grammatices olim ebibimus; Multum scire est via jucundissima. Non igitur opus est, ut ullaerius mihi suadeas, studio literarum et doctrinæ incumbere, quia quidem (ut planè loquar) omnibus gemmis, vel pretiosissimis cupidissime malim. Vale, et literas quām sepissime mille ad*

*Amantissimum tui,*

BOBERTUM BURROWS.

Thus you may help them to take so much as is needful and fit for their purpose out of any Epistle, and to alter and apply it fitly to their several occasions of writing to their friends; and where Tully's expressions will not serve them, let them borrow words and phrases out of the books that they have learned, (but especially out of *Terence*) and take care to place them so that they may continually seem to imitate Tully's form in writing epistles, though they be not altogether tied to his very words. And this I give as a caution both in speaking and writing Latin, that they never utter or write any words or phrases which they are not sure they have read or heard used in the same sense that they there intend them.

It were necessary for them, as they proceed in reading epistles, to pick out all such familiar expressions as are incident to be used in writing letters, and to note them in a paper book kept for the purpose, digested into certain places, that they may help themselves with them as they have occasion; you may see a precedent hereof in *Fabritius's Elegantiae Pueriles*. And because the same phrase is not often to be repeated in the same words, they should now strive to get more liberty of expressing their minds by learning to vary one and the same phrase both in English and Latin, sometimes *ex tempore*, before the master, and sometimes amongst themselves by writing them down, and then appealing to the master to judge who hath done the best. To enter them upon this work, you may first begin with Mr. Clark's *Duxoratorius*, and then make use of that excellent book of Erasmus *de copiâ verborum*, which was purposely by him intended and contrived for the benefit of Paul's School, and I am sorry to see it so little made use of in most of our grammar schools in England.

To encourage them to begin to write of themselves, and to help their invention somewhat for inditing epistles, you may take this course at once with a whole form together, which I have experienced to be very easy, and generally pleasing to young scholars.

1. Ask one of your boys, to whom and for what he is minded to write a let-

ter; and, according as he shall return you an answer, give him some general instructions how to do it.

2. Then bid him and all his fellows let you see which of them can best indite an English letter upon that occasion, and in how short a time.

3. Let them every one bring his own letter fairly written, that you may show them how to amend the imperfections you find in it.

4. Take his that hath done the best, and let every one give you an expression of his own gathering for every word and phrase that is in it, and let it be different (if it may be) from that which another hath given already before him.

5. As they give in their expressions, do you, or an able scholar for you, write them all down in a paper, making a note that directeth to the place to which they belong.

6. Then deliver them the paper, and let every one take such words or phrase as is most agreeable to the composition of an epistolary style (so that he take not the same that another useth) and bring the letter written fairly, and turned out of English into Latin. And thus you shall find the same epistle varied so many several ways, that every boy will seem to have an epistle of his own, and quite differing in words from all those of his fellows, though the matter be one and the same.

To help the young beginners to avoid barbarisms and Anglicisms, (to which they will be very subject, if not timely prevented) you may make use of a little English and Latin Dictionary in octavo, which resolves the difficulties of translating either way, and Mr. Walker's useful *Book of Particles*, which is lately printed; as also Mr. Willis' *Anglicisms Latinized*, and Mr. Clerk's *Phraseologia Puerilis*; not to mention *Turcellinus*, or Dr. Hawkins' *Particula Latinae Orationis*, which may be afterwards made use of, when scholars grow towards more perfection in the Latin tongue, and can read them without your help. But for their further assistance in this most profitable and commendable kind of exercise, I commend unto you Mr. Clerk's *Epistolographia*, and Erasmus' *De conscribendis Epistolis*; to which you may add *Buchleri Thesaurus conscribendarum Epistolarum*, *Verepanus de conscribendis Epistolis*, and others fitting to be reserved in the school library for your scholars to peruse and collect notes out of, at their leisure hours. He that will be excellent in any art must not only content himself with the best precedents, which in many particulars may (perhaps) exceed all others, but also now and then take notice what others have attempted in that kind, and sometimes he shall find the meanest to afford him matter of good use. And therefore I would advise that the scholars in the upper forms may often employ themselves in perusal of all *Tully's Epistles*, and sometimes in those of Pliny, Seneca, Erasmus, Lipsius, Manutius, Ascham, Politianus, and whatever they find in the school library, (which should indeed be very well furnished with epistolary books) that out of them they may learn to express their minds to the full upon any subject or occasion, to whomsoever they write, and to use a style befitting both the matter and persons, be they never so lofty or mean.

After this form is once well entered to write epistles of themselves, they may make two epistles every week, (one in answer to the other) to be shown fairly on Saturdays, so they do not exceed a quarter of a sheet on one side, because great heed should be taken in the composing of them.

And let this rule be observed in performing these and all manner of exercises, that they never go about a new one till they have finished what they began. It

were better for scholars sometimes to do one and the same exercise twice or thrice over again, that in it they may see and correct their own errors and strive to outdo themselves, than by flipping from one work to another, and leaving that in their hands incomplete, to get an ill habit of posting over business to little or no purpose. *Non quidam multum sed quidam bene*, should be remembered in scholars' exercises.

8. Their afternoon lessons on Mondays and Wednesdays, for the first half year (at least) may be in Ovid's little book *De tristibus*, wherein they may proceed by six or eight verses at a lesson, which they should first repeat *memoriter* as perfectly as they can possibly, because the very repetition of the verses, and much more the having of them by heart, will imprint a lively pattern of hexameters and pentameters in their minds and furnish them with many good authorities.

2. Let them construe *verbatim*, and if their lesson be harder than ordinary, let them write it down construed.

3. Let them parse every word most accurately, according to the grammatical order.

4. Let them tell you what tropes and figures they find in it, and give you their definitions.

5. Let them scan every verse, and after they have told you what feet it hath in it, and of what syllables they consist, let them give the rule of the quantity of each syllable, why it is long or short; the scanning and proving verses, being the main end of reading this author, should more than any thing be insisted upon, whilst they read it. And now it will be requisite to try what inclination your young scholars have towards poetry: you may therefore let them learn to compose English verses, and to inure them so to do, you should

1. Let them procure some pretty delightful and honest English poems, by perusal whereof they may become acquainted with the harmony of English poesy. M. Hardwick's late translation of *Mantuan*, Mr. Sandys of *Ovid*, Mr. Oglesby's of *Virgil*, will abundantly supply them with heroic verses, after they can truly and readily make which, they may converse with others that take liberty to sport it in lyric verses; amongst all which, Mr. Herbert's Poems are most worthy to be mentioned in the first place, and next to them (I conceive) Mr. Quarles' *Divine Poems*, and his *Divine Fancies*; besides which, you may allow many others full of wit and elegance; but be sure you admit of none which are stuffed with drollery or ribaldry, which are more fit to be burnt than to be sent abroad to corrupt good manners in youth.

2. After they are thus become acquainted with a variety of meter, you may cause them to turn a fable of *Aesop* into what kind of verse you please to appoint them; and sometimes you may let them translate some select epigrams out of *Owen*, or those collected by Mr. Farnaby, or some emblems out of *Alciat*, or the like flourishes of wit, which you think will more delight them and help their fancies. And when you see that they begin to exercise their own wits for enlargement and invention, you may leave them to themselves to make verses upon any occasion or subject; yet to furnish them with rhymes, epithets, and variety of elegant expressions, you may let them make use of the pleasant *English Parnassus*, composed by the true lover of the muses, Mr. Joshua Poole, my quondam school-fellow at Wakefield, who, like another Daphnis, may truly be said (what I now sigh to write) to have been at the blue house in Hadley Parish, now daily in my sight, *Formosi pecoris custos, formosior ipse*.

When you have taught them truly to scan and prove any kind of Latin verse, and made them to taste the sweetness of poetizing in English, you may prepare them further for making Latin verses out of their present authors, thus:

1. Take a distich or two which they know not where to find, and transpose the words as different as may be from a verse, and when you have made one to construe them, dismiss them all to their seats, to try who can turn them first into true verses without one another's suggesting. When they have all dispatched, cause him whom you conceive to be the weakest to compare what he hath done with his author, and to prove his verses by the rules of *Prosodia*.

2. You may sometimes set them to vary one and the same verse, by transposing the same words as many several ways as they can. Thus this verse may be turned one hundred and four ways:

*Est mea spes Christus solus qui de cruce pendet,*

And sometimes you may cause them to keep the same sense, and alter the words. Thus this distich is found in Mr. Stockwood's *Progymnasma Scholasticum*, to be varied four hundred and fifty ways:

*Linque cupido jecur, cordi quoque parcito, si vis Figere, sige alio, tela cruenta loco.*

To direct and encourage your young scholars in turning verses, you may make use of the book last mentioned, and for further instructions concerning making verses, I refer you to Mr. Clerk's *Dux Poeticus*.

9. To enable your scholars yet more to write good Latin in prose, and to prepare them further for verses by reading poetical books which abound with rich expressions of fancy, I would have them spend the next half year in *Ovid's Metamorphosis*, out of which author you may make choice of the most pleasing and profitable arguments, which it is best for you yourself to construe and explain unto them, that they may dispatch the more at a lesson, and with more ease. When they come to say,

1. Let them repeat four or six verses (which you judge most worthy to be committed to memory) by heart.

2. Let them construe the whole lesson *verbatim*, minding the propriety of the words, and the elegance of every phrase.

3. Let them parse every word grammatically, as they have been used to do in other authors.

4. Let them give you the tropes and figures, the derivations and differences of some words, and relate such histories as the proper names will hint at, which they may peruse beforehand in their dictionary. And let them not forget to scan and prove every verse, and to note more difficult quantities of some syllables.

5. Let them strive (who can best) to turn the fable into English prose, and to adorn and amplify it with fit epithets, choice phrases, acute sentences, witty apothegms, lively similitudes, pat examples, and proverbial speeches, all agreeing to the matter of morality therein couched; all which they should divide into several periods and turn into proper Latin, rightly placed according to the rules of rhetorical composition.

6. Let them exercise their wits a little in trying who can turn the same into the greatest variety of English verses.

Mr. Sandy's translation of this book, in folio, and Mr. Rosse's *English Mythologist*, will be very delightful helps to your scholars for the better under-

standing thereof; and if to these you add Sir Francis Bacon's little book *De Sapientiā veterum, Natales' comes*, and Verderius's *Imagines Deorum, Lexicon Geographicum, Poeticum, et Historicum*, and the like, fitting to be reserved for your scholars' use in the school library, it will invite them like so many bees to busy themselves sucking up matter and words to quicken their invention and expression; and if you would have those in this form acquainted with variety of Latin verses, and how to change them one into another, you may sometimes exercise them in Buchanan's *Psalms*, and partly out of *Vossius's*, partly out of Mr. Lloyd's *Grammar* lately printed, you shall find sufficient store and several kinds of verses to delight and profit them withal.

Whereas *Wits' Commonwealth* is generally imposed upon young scholars to translate out of English into Latin, and I observe it very difficult to be done by reason of the many uncouth words and mere Anglicisms that are in it, concerning which they can not any way help themselves by common dictionaries or phrase-books, I have thought good to frame an alphabetical index of every English word and phrase therein contained, with figures pointing to the chapter and verse where it is used, and showing what Latin or Greek expression is most proper to be made in that place.

And this I would have annexed to that useful book, that by help thereof the scholars may of themselves be able to translate those pretty sentences out of English into Latin orderly composed, and afterwards with the same ease out of Latin into Greek. If the stationers do not accord, that they may be printed together, know that the Index may be had single by itself, as well as the book, and he that buyeth the one can not well be without the other; they are both so necessary and nearly related to one another.

They in this form may learn the Assembly's lesser Catechism in Latin and Greek, which is elegantly translated into those languages by Doctor Harmar.

Thus then in short, I would have them employed: 1. In reading out of the *Latin Testament* every morning, till they be able to go on with the *Greek*, which may then take place. 2. In repeating a grammar part every Thursday morning. 3. In learning rhetoric when they have done that. 4. *Camden's Greek Grammar* on Mondays, Tuesdays and Wednesdays for morning parts. 5. In using *Terence* on Mondays, Tuesdays, Wednesdays and Thursdays for forenoon lessons. 6. In *Janua Latinae Linguae* for afternoon parts on Mondays and Wednesdays. 7. In some of *Sturmius'* or *Textor's Epistles* on Tuesday and Thursday afternoons, and *Shirley's Introductorium* after *Praxis* ended. 8. In *Ovid de Tristibus* on Mondays and Wednesdays in the afternoon for the first, and in *Ovid's Metamorphosis* for the second half year. They may translate four verses every night out of *Wits' Commonwealth*, and say lessons on Saturdays in the *Assembly's Catechism*; and by the diligent improvement of these books to their several uses, they may first become perfectly ready in the Latin and Greek grammar, and the elements of rhetoric. 2. They may get copy of words and learn to know their derivations and differences, as also how to vary phrases. 3. They may gain the right way of double translating and writing a pure Latin style. 4. They may be helped in their invention and easily taught to make all sorts of English and Latin verses, and to write familiar and elegant epistles upon all occasions; for the performance of all which works, though more than ordinary care and pains may seem to be required in the master, and a great deal of study and diligence may be thought to be exacted of the scholars

above what is usual in many schools, yet a little experience will evidence that all things being orderly and seasonably done, will become easy and pleasing to both after a very little while. And if the master do but consider with himself and inform his scholars that they shall all ere long reap the sweet of their present labors, by a delightful and profitable perusal of the choicest authors, both Greek and Latin, whom as they must strive to imitate, so they may hope to equal in the most noble style and lofty strains of oratory and poesy; it will encourage them to proceed so cheerfully that they will not be sensible of any toil or difficulty, whilst in a profiting way they pass this form and endeavor to come to the next, which we intend to treat of in the following chapter.

II.—*How to teach scholars in the fifth Form to keep and improve the Latin and Greek Grammars, and Rhetoric. How to acquaint them with an Oratory, style and pronunciation. How to help them translate Latin into Greek, and to make Greek verses, as they read Isocrates and Theognis. How they may profit well in reading Virgil, and easily learn to make good themes and elegant verses with delight and certainty. And what Catechisms they may learn in Greek.*

Though it may seem a needless labor to prescribe directions for the teaching of the two upper forms, partly because I find more written concerning them than the rest, and partly because many very eminent and able schoolmasters employ most of their pains in perfecting them, every one making use of such authors and such a method as in his own discretion he judgeth best to make them scholars; not to say that the scholars themselves, (being now well acquainted with the Latin and Greek Grammar, and having gotten a good understanding (at least) of the Latin tongue, by the frequent exercise of translating and speaking Latin, and writing colloquies, epistles, historical and fabulous narratives and the like, besides reading some school authors and other helpful and profitable books, will be able in many things to proceed without a guide, addicting their minds chiefly to those studies which their natural genius doth most prompt them to, either concerning oratory or poetry; yet I think it requisite for me to go on as I have begun, and to show what course I have constantly kept with these two forms, to make them exactly complete in the Greek and Latin tongues, and as perfect orators and poets in both as their young years and capacities will suffer; and to enter them so in the Hebrew as that they may be able to proceed of themselves in that holy language, whether they go to the university, or are otherwise disposed to some necessary calling, which their parents or friends think fitting for them.

And first, I most heartily entreat those (especially that are my loving friends and acquaintance) of my profession, whose years and experience are far beyond mine, that they would candidly peruse and kindly interpret what I have written, seeing I desire not by any means to impose any thing too magisterially upon them or others, but freely to communicate to all men what I have for many years kept private to myself, and hath by some (whose single judgment may sufficiently satisfy me) been importunately thus given to the press; and if in any particular I seem to them to deviate from or fall short of what I aim at, viz., a facilitating the good old way of teaching by grammar, authors, and exercises, I shall take it as a singular token of love that they acquaint me with it, and if by this rush-candle of mine they please to set up their own tapers, I shall rejoice to receive greater light by them, and be ready to walk in it more vigor-

ously. In the interim I go on with my discovery touching the fifth form, which I would have employed in this manner:

1. Let them and the form above them read daily a dozen verses out of the *Greek Testament* before the saying of parts.

2. Let them reserve the *Latin* and *Greek Grammars* and *Elementa Rhetorices* for weekly parts, to be said only on Thursday mornings, and so divided that they may be sure to go over them all once every quarter. By this means they will keep them in constant memory, and have more time allotted them for perusing authors and dispatch of exercises. You must not forget at every part to let them have your help of explication of the most obscure and difficult places before they recite, and after they have recited to make such diligent examination as that you may be sure they understand what they learn.

And to make them more fully acquainted with the accents and dialects of the Greek tongue, you may (besides those few rules in their grammar) let them daily peruse a chapter in Mr. Franklin's little book *De Opoeroriar*, which is excellently helpful to young Graecians, and when they grow stronger, that *Appendix de Dialectis* at the end of *Scapula* will be worth their reading and observing. It would be good sometimes to make them compare the *Latin* and *Greek Grammar* together, and to see wherein they agree and wherein they differ, but especially in the rules of syntax, and for this purpose *Vechneri Helonezia* will be of excellent use.

And as I have directed before how scholars should have a commonplace-book for the *Latin* grammar, so I do here also for the Greek desire that after it is learnt, it may be drawn into a synopsis, and that digested into commonplace heads, to which they may easily refer whatever they read worth noting out of any Greek grammar they peruse. And that they may more freely expatiate in such books, it were good if they had Mr. Busby's *Grammar*, *Cleonard*, *Scotus*, *Chrysolora*, *Ceporinus*, *Gaza*, *Urbanus*, *Caninus*, *Gretserus*, *Posselii Syntaxis*, and as many as can be gotten, both ancient and modern, laid up in the school library, to collect annotations out of, as their leisure will best permit; and you will scarce imagine to what exactness a boy will attain, and what a treasure of good notes he will have heaped up in these two years' time, if he be moderately industrious, and now and then employ himself in collecting of his own accord; and I may add that scholars of any ordinary ingenuity will delight more to be doing something at their book, which they well understand, than to be trifling and rambling up and down about idle occasions.

3. Forasmuch as it is usual and commendable to bring on children towards perfection in the Greek tongue, as they proceed in oratory and poetry in the *Latin*, I think it not amiss to exercise these two forms in such authors as are commonly received and may prove most advantageous to them in all these; yet herein I may seem to differ from some others, that instead of grammar parts, (which I reserve to be constantly repeated every Thursday) I would have this form to learn some lively patterns of oratory, by the frequent and familiar use whereof, and the knowledge of the histories themselves to which they relate, they may at last obtain the art of gallant expression, and some skill to manage future affairs, it being requisite for a scholar, more than any man, to be expert in speaking and doing.

At first therefore for morning parts on Mondays, Tuesdays and Wednesdays, I would have them exercised in *Aphthonius*, (if it can be gotten, as I desire it

may be reprinted) both in Greek and Latin. Out of which book I would have them translate the fables and themes (so as to finish at least one every week) into pure English, and to repeat them (being translated) in both languages, that by that means they may gain the method of these kinds of exercises and inure themselves to pronunciation. When they have gone over them, they may next translate *Tully's* six Paradoxes, and pronounce them also in English and Latin, as if they were their own. And afterwards they may proceed in those pithy orations which are purposely collected out of *Sallust*, *Livy*, *Tacitus*, and *Quintus Curtius*, having the histories of their occasions summarily set down before them. And of these I would have them constantly to translate one every day into English, beginning with those that are the shortest, and once a week to strive amongst themselves who can best pronounce them both in English and Latin. I know not what others may think of this task, but I have experienced it to be a most effectual mean to draw on my scholars to emulate one another who could make the best exercises of their own in the most rhetorical style, and have often seen the most bashful and least promising boys outstrip their fellows in pronouncing with a courage and comely gesture; and for bringing up this use first in my school, I must here thank that modest and ingenuous gentleman, Mr. Edward Perkins, who was then my usher, for advising me to set upon it. For I found nothing that I did formerly to put such a spirit into my scholars and make them, like so many nightingales, to contend who could *μάλιστα* most melodiously tune his voice and frame a style, to pronounce and imitate the forementioned orations.

4. Their forenoon lessons on Mondays and Wednesdays may be in *Isocrates*, and to make them more attend the Greek,

1. Let them (at first especially) translate every lesson by way of interlineary writing according to the grammatical order.

2. Let them parse the whole lesson in that order, and give you the variation and derivation of the most difficult nouns and verbs throughout, and the rules of syntax and of the accents.

3. Let them pick out the phrases and more elegant words as they go along, and write them in a paper book, and transcribe what sentences they meet withal into their commonplace-book. After they are well entered, you may cause them to translate the Greek into elegant Latin, and on Fridays, when they come to repeat, to render their own Latin into Greek, which they should endeavor to write down very true and fair without any help of their author, who is then to be thrown aside, but afterwards compared with what they have done.

Three quarters of a year (I conceive) will be sufficient to exercise them in *Isocrates*, till they get a perfect knowledge of etymology and syntax in Greek, which they will more easily attain to, if out of this author (especially) you teach them to translate such examples most frequently as may serve to explicate those rules which are not to be found in their Latin grammar, and very seldom occur in the Greek one, which they commonly read. And then you may let them translate a psalm out of English into Latin, and out of Latin into Greek, and compare them with the Septuagint Psalter. Afterwards you may give them some of Demosthenes' *Sentences* or similes, (collected by Loinus), or of Posselius' *Apothegms* in Latin only; and let them turn them into Greek, when they have done which, you may let them see the authors, that by them they may discover their own failings and endeavor to amend them.

Their lessons then for the fourth quarter on Mondays and Wednesdays should be in *Theognis*, in which most pleasing poet they may be taught not only to construe and parse, as formerly, but also to mind the dialects, and to prove and scan, and to try how to make hexameter and pentameter Greek verses, as they formerly did Latin ones, out of *Ovid de Tristibus*. And here I must not forget to give notice to all that are taken with this author, that Mr. Castilion's *Prælectiones* (which he sometimes read at Oxford, in Magdalen College, and Mr. Langley, late schoolmaster of Paul's, transcribed when he was student there) are desirous to see the light, were they but helped forward by some stationer or printer that would a little consider the author's pains. I need give the work no more commendation than to say that (besides Mr. Langley who wrote it long ago) Mr. Busby, Mr. Dugard, Mr. Singleton, and some others of note, have seen the book, and judged it a most excellent piece not only to help young scholars in the understanding of *Theognis*, but also to furnish them with abundant matter of invention, and to be a precedent to students in the universities whereby they may learn to compose such kind of lectures upon other poets, either for their own private recreation or more public reading. *Screvelli Lexicon Manuale* will be very useful to this form for parsing their lessons; and *Garthii Lexicon* (which is annexed to it), *Rulandi Synonymia*, *Morelli Dictionarium*, *Billii Locutiones*, *Devariis de Græcis particulis*, *Posselii Calligraphia*, for translating Latin into Greek; but nothing is more available to gain a good style than a frequent imitation of select pieces out of *Isocrates* and *Demosthenes*, and translating one while out of the Greek into Latin, and another while out of Latin into Greek.

5. For forenoon lessons on Tuesdays and Thursdays, I make choice of *Justin* as a plain history, and full of excellent examples and moral observations, which for the easiness of the style the scholars of this form may now construe of themselves, and as you meet with an historical passage that is more observable than the rest, you may cause every one of them to write it down in English as well as he can possibly relate it without his book, and to turn it again into good Latin. By this means they will not only well heed the matter, but also the words and phrases of this smooth historian. And after half or three quarters of a year, you may make use of *Cæsar's Commentaries* or *Lucius Florus* in this manner, intermixing some of Erasmus' *Colloquies* now and then for variety's sake.

6. Their afternoon parts on Mondays and Wednesdays may be in *Janua Linguarum Græca*, translated out of Latin by Theodorus Simonius, which they may use as they formerly did the *Janua Latinae Lingue*, viz., after they have construed a chapter and analyzed some harder nouns and verbs, you may let them try who can recite the most Greek names of things and tell you the most Greek words for one Latin word, and show their derivations and differences and the rules of their several accents. And to acquaint them the better with all the Greek and Latin words comprised in that book, you may cause them at every part to write out some of the Latin index into Greek, and some of the Greek index into Latin, and to note the manner of declining nouns and verbs, as the dictionaries and lexicons will show them.

7. *Virgil*, the prince and purest of all Latin poets, doth justly challenge a place in school-teaching, and therefore I would have him to be constantly and thoroughly read by this form on Mondays and Tuesdays for afternoon lessons. They may begin with ten or twelve verses at a lesson in the *Elogues*, which

they may first repeat *memoriter* as well as they can possibly. 2. Construe and parse, and scan and prove exactly. 3. Give the tropes and figures, with their definitions. 4. Note out of the phrases and epithets, and other elegances. 5. Give the histories or descriptions belonging to the proper names, and their etymologies.

But after they are well acquainted with this excellent poet, let them take the quantity of an eclogue at once, not minding so much to con their lessons by heart, as to understand and examine them well and often over, according to the directions which Erasmus gives, *De modo repetenda lectionis*, which Mr. Langley caused to be printed at the end of *Lilly's Grammar* by him corrected, and Mr. Clark hath worthily inserted in his *Dux Grammaticus*. There are several translations of *Virgil* into English verse, by the reading whereof young scholars may be somewhat helped to understand the Latin better, but of all the rest Mr. Ogilby hath done it most completely, and if his larger book may be procured for the school library, the lively pictures will imprint the histories in scholars' memories, and be a means to heighten their fancies with conceits answerable to the author's gallant expressions. After they have passed the *Georgics* by the master's help, he may leave them to read the *Aeneads* by themselves, having *Cerdo* or *Servius* at hand to resolve them in places more difficult for them to construe, though Mr. Farnaby's *Notes upon Virgil* will assist them ever and anon.

As they read this author, you may cause them sometimes to relate a pleasing story in good English prose, and to try who can soonest turn it into elegant Latin, or into some other kind of verses which you please to appoint for them, either English or Latin, or both.

8. On Tuesdays in the afternoon you may cause them sometimes to translate one of *Aesop's Fables*, and sometimes one of *Ælian's Histories*, or a chapter in *Epictetus*, out of Greek into English, and then to turn its English into Latin, and out of Latin into Greek. And on Thursdays in the afternoon they may turn some of Mr. Farnaby's *Epigrammata Selecta* out of Greek into Latin and English verses, and some of *Aesop's Fables* or *Tully's Sentences* into Latin and afterwards into Greek verses.

You need not always let your scholars have these Greek books, but sometimes dictate to them what you would have them write, and afterwards let them compare their own doings with their author, to discover their own failings, and this will be a means to help them to write Greek truly of themselves; you may sometimes dictate a colloquy, or epistle, or a sentence, or a short history in English, and let them write it in Latin or Greek as you speak it, and by this you may try their strength at any time, and prepare them for extemporary exercises.

9. Now forasmuch as this form is to be employed weekly in making themes and verses, which they can never well do except they be furnished with matter beforehand, I would have them provide a large commonplace-book, in which they should write at least those heads which Mr. Farnaby hath set down in his *Index Rhetorius*, and then busy themselves (especially) on Tuesdays and Thursdays in the afternoon, after other tasks ended, to collect, 1. Short histories out of *Plutarch*, *Valerius Maximus*, *Justin*, *Cesar*, *Lucius Florus*, *Livy*, *Pliny*, *Parcius Medulla Historia*, *Ælian*, &c. 2. Apologues and Fables out of *Aesop*, *Phædrus*, *Ovid*, *Natales Comes*, &c. 3. Adages out of *Adagia Selecta*, *Erasmii*

*Adagia*, Drax's *Bibliotheca Scholastica*, &c. 4. Hieroglyphics out of *Pierius* and *Caussinus*, &c. 5. Emblems and symbols out of *Alciat*, *Besa*, *Quarles*, *Reusnerus*, *Chartarius*, &c. 6. Ancient laws and customs out of *Diiodorus Siculus*, *Paulus Minutius*, *Plutarch*, &c. 7. Witty sentences out of *Golden Grove*, *Moral Philosophy*, *Sphinx Philosophica*, *Wits' Commonwealth*, *Flores Doctorum*, *Tully's Sentences*, *Demosthenis Sententiae*, *Enchiridion Morale*, *Stobaeus*, *Elthica Cireroniana*, *Gruteri Florilegium*, &c. 8. Rhetorical exhortations out of *Vossius*, *Farnaby*, *Buller*, &c. 9. Topical places out of *Caussinus*, *Tresmarus*, *Orator Extemporaneus*, &c. 10. Descriptions of things natural and artificial out of *Orbis Pictus*, *Caussinus*, *Plinius*, &c. I may not forget *Textor's Officina*, *Lycosthenes*, *Erasmi Apothegmata*, *Carolina Apothegmata*, and *Polyanthea*, which, together with all that can be got of this nature, should be laid up in the school library for scholars to pick what they can out of, besides what they read in their own authors.

Now the manner in which I would have them use them is thus: Having a theme given them to treat of, as suppose this:

*Non astas semper fuerit, componite nidos,*

Let them first consult what they have read in their own authors concerning *Tempus*, *Aetas*, *occasio* or *opportunitas*, and then, 2. Let every one take one of those books forementioned and see what he can find in it for his purpose, and write it down under one of those heads in his commonplace-book, but first let the master see whether it will suit the theme. 3. Let them all read what they have written before the master, and every one transcribe what others have collected into his own book; and thus they may always have store of matter for invention ready at hand which is far beyond what their own wit is able to conceive. Now to furnish themselves also with copy of good words and phrases, besides what they have collected weekly and what hath been already said of varying them, they should have these and the like books reserved in the school library, viz., *Sylva Synonymorum*, *Calliepia*, *Huisse's phrases*, *Winchester's phrases*, *Lloyd's phrases*, *Farnaby's phrases*, *Enchiridion Oratorium*, *Clark's Phraseologia* and his *English Adages*; *Willis' Anglicisms*, *Barrett's Dictionary*, *Hulet* or rather *Higgins' Dictionary*; *Drax's Bibliotheca*, *Parei Calligraphia*, *Manutii phrases*, *A little English Dictionary*, 16mo., and *Walker's Particles*; and if at any time they can wittily and pitifully invent any thing of their own brain, you may help them to express it in good Latin, by making use of *Cooper's Dictionary*, either as himself directeth in his preface or *Phalerius* will more fully show you in his *Supplementa ad Grammaticam*.

And to draw their words and matter into the form of a theme with ease, let them have sound patterns to imitate, because they in every thing prevail to do it soonest and surest.

First therefore let them peruse that in *Merchant Tailors' School Probation Book*, and then those at the end of *Winchester's phrases*, and those in Mr. Clark's *Formula Oratoria*; and afterwards they may proceed to those in *Aphthonius*, *Rudolphus Agricola*, *Catineus*, *Loricenus*, and the like, and learn how to prosecute the several parts of a theme more at large by intermixing some of those *Formulae Oratoria* which Mr. Clark and Mr. Farnaby have collected, which are proper to every part, so as to bring their matter into handsome and plain order, and to flourish and adorn it neatly with rhetorical tropes and figures, always

regarding the composition of words, so as to make them run in a pure and even style, according to the best of their authors, which they must always observe as precedents.

But the best way (as I conceive) to encourage children at the first against any seeming difficulty in this exercise of making themes is this: After you have shown them how to find matter, and where to help themselves with words and phrases, and in what order they are to dispose the parts, and what formulas they are to use in passing from one to another; propound a theme to them in English and Latin, and let them strive who can soonest return you the best exordium in English, and then who can render it into the best Latin, and so you may proceed to the narration and quite through every part of a theme, not tying them to the words of any author, but giving them liberty to contract or enlarge or alter them as they please, so that they still contend to go beyond them in purity of expression. This being done, you may dismiss them to adventure to make every one his own exercise in English and Latin, and to bring it fairly written, and be able to pronounce it distinctly *memoriter* at a time appointed. And when once you see they have gained a perfect way of making themes of themselves, you may let them go on to attain the habit by their own constant practice, ever and anon reminding them what places in their authors (as they read) are most worthy of notice and imitation, and for what purposes they may serve them.

10. Touching learning to scan and prove and make all sorts of verses, I have spoken in the former chapter; now for diligent practice in this kind of exercise, they may constantly comprise the sum of their themes in a distich, tetristich, hexastich, or more verses, as they grow in strength. For invention of further matter upon any occasion or subject they are to treat upon, they may sometimes imitate places out of the purest poets, (which Mr. Farnaby's *Index Poeticus* will point them to, besides what they find in *Flores Poetarum* and *Sabinus de Carminibus ad veterum imitationem artificiose compendis*, at the beginning of *Textor's Epistles*, will further direct them) and sometimes paraphrase or (as some term it) metaphrase upon a piece of a historian or orator, endeavoring in a lively way to express in verse what the author hath written in prose, and for this Mr. Horne hath furnished you with two examples in this excellent *χρηστεύεις, de usu Authoris*.

For variety and copy of poetical phrases, there are many very good helps, viz, *Phrases Poeticae*, besides those of Mr. Farnaby's; *Ærarium Poeticum*, *Emchiridion Poeticum*, *Res Virgiliana*, *Artis Poeticae Compendium*, *Thesaurus Poeticus*, and others, worthy to be laid up in the school library. *Textor* will sufficiently supply choice epithets, and *Smetti's Prosodia* will afford authorities, (which is lately comprised and printed at the end of *Lilly's Grammar*.) But for gaining a smooth way of versifying, and to be able to express much matter in few words and very fully to the life, I conceive it very necessary for scholars to be frequent in perusing and rehearsing *Ovid* and *Virgil*, and afterwards such kind of poets as they are themselves delighted withal, either for more variety of verse or the wittiness of conceit's sake. And the master indeed should cause his scholars to recite a piece of *Ovid* or *Virgil* in his hearing now and then, that the very tune of these pleasant verses may be imprinted in their minds, so that whenever they are put to compose a verse, they make it glide as even as those in their authors. Mr. Rosse in his *Virgilian Evangelizans* will easily show how a young scholar may imitate *Virgil* to the life.

From this little that hath been said, they that have a natural aptness and delight in poetry may proceed to more exquisite perfection in that art than any rules of teaching can reach unto; and there are very few so meanly witted, but by diligent use of the directions now given may attain to so much skill as to be able to judge of any verse, and upon a fit occasion or subject to compose a handsome copy, though not so fluently or neatly as they that have a natural sharpness and dexterity in the art of poetry.

11. When they in this form have gone thrice over the *Assembly's Catechism* in Greek and Latin, they may proceed in *Nowell's Catechism*, or the *Palatinate Catechism* in Greek.

And now to sum up all concerning the fifth form, 1. Let them read constantly twelve verses at least in the *Greek Testament*, before parts. 2. Let them repeat the *Latin* and *Greek Grammars* and *Elementa Rhetorices* on Thursday mornings. 3. Let them pronounce orations on Mondays, Tuesdays and Wednesdays, instead of parts, out of *Livy*, &c. 4. Let their forenoon lessons on Mondays and Wednesdays be in *Isocrates* for three quarters of a year's space, and for the fourth quarter in *Theognis*. 5. Let their forenoon lessons on Tuesdays and Thursdays be in *Justin's History*, and afterwards in *Cesar's Commentaries*, *Lucius Florus*, or *Erasmus' Colloquies*. 6. Let their afternoon parts on Mondays and Tuesdays be in *Januā linguarum Græcā*, and 7. Their afternoon lessons in *Virgil*. 8. Let them on Tuesdays in the afternoon translate out of Greek, *Aesop's Fables*, *Ælian's Histories*, *Epictetus*, or *Furnaby's Epigrammata*. 9. Let them be employed weekly in making a theme, and 10. In a copy of verses. 11. Let them say *Nowell's Catechism* or the *Palatinate Catechism* on Saturdays. By this means they will become familiarly acquainted with the Latin and Greek tongues, and be able to peruse any orator or poet in either language, and to imitate their expressions and apply what matter they find in them to their own occasions. And then they may courageously adventure to the sixth and highest form.

III.—*How to enter the scholars of the sixth Form in Hebrew. How to employ them in reading the best and most difficult authors in Latin and Greek, and how to acquaint them with all manner of school exercises, Latin, Greek, or Hebrew.*

This sixth form is looked upon as the main credit of a school, and the master commonly delighteth most in teaching it, because therein he seems to reap the fruit of those labors which he hath bestowed formerly. His care therefore is to exercise them in everything that may complete a scholar, so that whether they be privately examined or upon any public solemnity required to show their parts, they may satisfy them that desire an account, and gain to themselves applause. And whereas I observe more variety in teaching this form than the rest, because almost every master observes a several method in reading such authors as himself best liketh, I will not much trouble myself to declare what others do, but as plainly as I can, discover what course I have hitherto taken to enable these highest scholars to shift for themselves.

1. Make them read (at least) twelve verses out of the *Greek Testament* into Latin or English, or out of the *English* or *Latin Testament* into Greek, every morning, before they say parts.

2. Let them repeat parts (as they did before) out of the *Latin* and *Greek Grammars* and *Elementa Rhetorices* every Thursday morning, and give account of what grammatical or rhetorical notes they have collected and written fairly in their commonplace-books for those arts. Besides the books which I formerly

mentioned, I desire that *Goclenii observationum linguae Latinae Analecta et Problemata Grammatica* may be made use of for this purpose.

3. Their parts on Mondays, Tuesdays and Wednesdays may be to learn the Hebrew tongue, which is very necessary for all such as would be acquainted with the original of the Bible, and is not very difficult to attain to, because it goeth word for word with our English, and is not so copious in words as the Greek and Latin. And whereas many defer the Hebrew to be learned at the university, I may say it is rarely attained there by any that have not gotten (at least) the rudiments of it beforehand at a grammar school.

Now for the entering of them upon this holy language, I conceive *Buxtorf's Epitome* is the best introduction of Hebrew grammar; partly because it is the most used in schools, and partly because most easy for young scholars to apprehend; though some prefer *Martinius*, others *Bellarmino*, others *Amoma*, others *Blebelius*, and others *Horologium Hebreorum Linguae*, before it. Now in teaching *Buxtorf* you may read your scholars a part of it, and cause them again to read it over perfectly in your hearing, and then let them get it by heart, as they did other parts, and when they recite be sure to examine how well they understand it. As they go over this grammar they should write out the letters and chiefest rules, but especially the declining of nouns and pronouns, and all the paradigms, of the conjugations both in Hebrew and Latin characters, with their proper significations; and this will cause them to mind the different shape of the consonants and vowels and accents, and help to strengthen their memory in getting the rules by heart. They may get every day a certain number of Hebrew roots, together with their grammar parts, out of some nomenclator or lexicon.

After they have learned the grammar, you may exercise them in those texts of Scripture annexed as a praxis at the end of it, which they must exactly construe and parse, and write fairly, by way of interlineary.

As they go over the Psalter they may sometimes translate their lessons into Latin, and read them out of Latin into Hebrew in a paper book. Then they may with facility run along the Psalter, having *Tossani syllabus geminus* to help them in every word. Afterwards they may proceed in the Proverbs, Ecclesiastes, Job, of themselves; but be sure they be well acquainted with the rules of finding a radix in *Buxtorf*, or *Pagnine*, or the like useful *Lexicon*, which are fit to be reserved in the school library. Though it be found a thing very rare, and is by some adjudged to be of little use, for school-boys to make exercises in Hebrew, yet it is no small ornament and commendation to a school (as Westminster School at present can evidence) that scholars are able to make orations and verses in Hebrew, Arabic or other oriental tongues, to the amazement of most of their hearers, who are angry at their own ignorance, because they know not well what is then said or written. As for orations, they may be translated out of Latin into Hebrew by help of *Schindler's Pentaglotton*, *Buxtorfius*, *Pagnine Crinesius*, or *Trostius' Lexicon*; and for verses, *Buxtorf's Thesaurus* will afford some rules and precedents, and *Aviani Clavis Poeseos Sacrae* all sorts of rhythms.

They that are more industriously studious in the Hebrew may profit themselves very much by translating *Janua Linguarum* into that language.

This that I have said may seem enough to be learnt at school, but if one desire to learn those oriental tongues in which the great Bible is now happily printed, (by the great vigilance and industry of Doctor Walton, who hath carried

on the work to the honor of this nation, the comfort of the poor Church of England, and the encouragement of good literature, in the midst of distracting times) he may make use of *Introductio ad lectionem Linguarum Orientalium*, and of the *Lexicon* (which I conceive ere this time is well-nigh finished) made on purpose to explicate the words of the Bible according to their several languages, viz., Hebrew, Chaldee, Samaritan, Syriac, Arabic, Persian, Ethiopic, Armenian, and Coptic, which is a kind of Egyptian tongue.

4. Their forenoon lessons on Mondays and Wednesdays may be in *Hesiod's Eopy et hysipaxi*, which they may now construe and parse of themselves by help of the Latin translation, and *Pusor* upon it, or *Screvelli Lexicon*; only yourself may now and then illustrate some harder places out of *Cerapine* and *Melancthon's Commentary*, published by Johannes Frisius Tigurinus; and cause them to paraphrase in Greek upon such lessons as are full of excellent matter, and which are worth getting by heart.

When they have gone over this, they may proceed in like manner to *Homer*, in which they may help themselves out of *Clavis Homerica* or *Lexicon Homericum*, or those *Quorundum verborum Themata* at the end of *Scapula Lexicon*. You may illustrate the difficult places in him out of *Eustathius' Commentary*, and let your scholars write some of his narrations in good Latin and Greek phrase. Chapman's English translation of *Homer* will delight your scholars to read in at leisure, and cause them better to apprehend the series of his poetical discourses. When they are well acquainted with this father of poetry, (which will be after they have read two books either of his *Iliad* or *Odyssey*) you may let them proceed to *Pindar*, and after they have tasted some of his odes by the help of *Benedictus' Commentary*, you may at last let them make use of *Lyophrion*, which they will better do, having *Canterus* or *Zetzius* to unfold his dark meaning, and *Longolii Lexicon* to interpret and analyze most of his uncouth words.

5. Their forenoon lessons on Tuesdays and Thursdays may be in *Xenophon's wpti Kópia taideias* for the first quarter or somewhat longer, and afterwards in some of *Euripides'* and *Sophocles'* *Tragedies*, which you please to pick out, to enable them for the rest; and if to these you add a few of *Aristophanes'* *Comedies*, which they may better understand by the help of *Bisotus* upon him, I suppose, you may turn them to any other Greek author, and they will give you a reasonable account thereof, having but a little time allowed them to deliberate upon it, and necessary subsidiaries at hand to help themselves withal in case they be put to a stand.

6. Their afternoon parts on Mondays and Wednesdays may be in *Ant. de Laubegois Breviarium Graecæ Lingue*, partly because the perusal of that book will help them to retain all the Greek vocabularies in mind, and partly because those excellent sentences being picked out of many authors, will acquaint them with most of the hard words that they are likely to find in them.

7. Their afternoon lessons may be in *Horace*, wherein they should be employed, 1. In committing their lessons to memory, as affording a rich mine of invention. 2. In construing and parsing, and giving the tropes and figures. 3. In scanning and proving verses. 4. Sometimes in turning an ode or epistle into other kinds of verses, English, Latin, or Greek; sometimes in paraphrasing or enlarging the words in an oratorical style, as Mr. Horne doth give some examples in his little golden book, *De uro Authoris*.

Mr. Farnaby's or Mr. Bond's *Notes* upon this poet will encourage your scholars to proceed in him; and after they have read what you best approve (for he that feeds cleanly will pare his apple) in this author, you may let them proceed to *Juvenal*, and read some select satires, by help of *Farnaby's Notes* or *Lubin's Commentary*, and then let them read *Persius* quite through, which (besides the notes upon him) Mr. Holyday's English translation will help them well to understand. As for *Lucan*, *Seneca's Tragedies*, *Martial*, and the rest of the finest Latin poets, you may do well to give them a taste of each, and show them how and wherein they may imitate them or borrow something out of them. Mr. Farnaby's *Notes* upon them will be helpful to understand them, and *Pareus*, or *Thubman* upon *Plautus*, will make some merry comedies of his that may be easily read over.

8. They may read some of *Luciani selecti mortuorum dialogi* on Tuesdays in the afternoon, and if those printed at Paris by Sebastian and Gabriel Cramoisy, *Cum interpretatione Latinâ et Grammaticâ singularum vocatione explanatione*, were to be had, they might easily run them over, but (I suppose) they will now be able to go on of themselves in the perusal of those lately printed by Mr. Dugard. After lessons ended, they may benefit themselves by reading *Jacobi Pontani Progymnasmata Latinitatis*, which will furnish them with good expressions for speaking Latin, and acquaint them with some patterns for exercises which are not elsewhere usually found.

9. On Thursdays they may be employed in reading some of *Tully's* orations, especially *Pro Archia contra Catalinam* and *Philippicae*; and afterwards they may peruse *Pliny's Panegyrica* and *Quintilian's Declamations*. After lessons ended, they may busy themselves in perusing *Goodwin's Antiquities* or the like. And here I do heartily wish, as Mr. Horne hath done formerly, that some one of better leisure and abilities would make an *Index Oratorius*, like the *Index Poeticus* of Mr. Farnaby's, which may point at the marrow of matter and words in all the purest orators that are extant, either ancient or modern, and that those authors might be reserved in the school library, whereunto scholars may have recourse touching any subject whereof they may have occasion to treat in their school exercises.

10 In the meantime this form should continue to make themes and verses, one week in Greek and another in Latin, and ever and anon they may contend in making orations and declamations, for which exercise they may find helps and patterns in Mr. Clerk's *Formulae Oratoriae*, and Mr. Horne's *De usu Authoris*. Likewise to bring themselves to a habituated perfection of good style, they should be frequent in perusing and excerpting passages that may serve for their occasions out of *Tully*, *Quintilian*, *Livy*, *Sallust*, *Tacitus*, *Quintus Curtius*, or the like ancient orations, and acquaint themselves with those modern orators whose eloquence we admire, viz., *Turnerus*, *Baudius*, *Muretus*, *Heinsius*, *Puteanus*, *Rainoldus*, *Lipeius*, *Barclaius*, *Salmatius*, and others, to be laid up in the school library. *Tesmarus* and *Orator Extemporaneus* will show them how to dispose their matter so as to make an oration on any subject in Latin, *extempore*; and *Aphthonius* and *Libanius Sophista* will furnish them with patterns in Greek. For learning to write Greek epistles they may consult *Isocrates' Epistles* and *Symmachus*.

They should often also vie wits amongst themselves, and strive who can make the best anagrams, epigrams, epitaphs, epithalamias, eclogues, acrostics, and

golden verses, in English, Latin, Greek, and Hebrew; which they will easily do after a while, having good patterns before them to imitate, which they may collect out of authors as they fancy them, for their own use and delight.

11. When they have done with *Nouell*, they may proceed to *Birket's Catechism* in Greek, or our common *Church Catechism* in Hebrew, which was printed for the company of stationers in four languages, A. D. 1638.

Thus have I at last done with my school discovery, in which I have proceeded so far as to make any author seem easy to young scholars in their future progress at the universities, where I would advise them (that have purses especially) to provide themselves with all the Latin and Greek orators and poets, and what they can not understand without a commentary or scholiast, to procure those whereby they may best help themselves, and to have *Stephani Thesaurus*, (Greek and Latin,) *Suidas*, *Hesychius*, *Budans' Commentaries*, and the like, ever at hand, that they may be sure to improve themselves in the Latin and Greek tongues, as well as to mind the daily study of the arts and sciences which are delivered in them.

1. And would some able tutor take the pains to describe a right method of study and in what authors students may best bestow their time for the first four years, it would doubtless be a means to encourage them to go on to that height of perfection which we see few attain to, and those not until they be ready to drop into their graves; and then they wish they could once run over again their former studies, and tell how easily they could cope-gain that little measure of knowledge which they have so industriously sought for all their life.

The constant employment of this sixth form is,

1. To read twelve verses out of the *Greek Testament* every morning before parts.
2. To repeat Latin and Greek grammar parts and *Elementa Rhetorices* every Thursday morning.
3. To learn the Hebrew tongue on Mondays, Tuesdays and Wednesdays, for morning parts.
4. To read *Hesiod*, *Homer*, *Pindar*, and *Lycopheron*, for forenoon lessons on Mondays and Wednesdays.
5. *Xenophon*, *Sophocles*, *Euripides* and *Aristophanes* on Tuesdays and Thursdays.
6. *Laubegois Breviarium Graecæ linguae* for afternoon parts on Mondays and Wednesdays.
7. *Horace*, *Juvenal*, *Persius*, *Lucan*, *Seneca's Tragedies*, *Martial* and *Plautus*, for afternoon lessons on Mondays and Wednesdays.
8. *Lucian's Select Dialogues* and *Pontani Progymnasmata Latinitatis* on Tuesday afternoons, and
9. *Tully's Orations*, *Pliny's Panegyrics*, and *Quintilian's Declamations* on Thursday afternoons, and *Goodwin's Antiquities* at leisure times.
10. Their exercises for oratory should be to make themes, orations and declamations, in Latin, Greek, and Hebrew; and for poetry to make verses upon such themes as are appointed them every week.
11. And to exercise themselves in anagrams, epitaphs, epithalamias, eclogues, and acrostics, in English, Latin, Greek, and Hebrew.
12. Their catechisms are *Nouell* and *Birket* in Greek, and the *Church Catechism* in Hebrew. So that in six (or at the most seven) years' time, (which

children commonly squander away, if they be not continued at the school, after they can read English and write well) they may easily attain to such knowledge in the Latin, Greek, and Hebrew tongues, as is requisite to furnish them for future studies in the universities, or to enable them for any ingenious profession or employment which their friends shall think fit to put them upon in other places.

But having somewhat to say further touching the well ordering of a grammar school, (for I have here insisted chiefly concerning teaching) I shall endeavor to proceed in my next treatise with school discipline.

In the meantime you may observe that the method which I have here discovered is for the most part contrived according to what is commonly practiced in England and foreign countries, and is in sundry particulars proportioned to the ordinary capacities of children under fifteen years of age. The subject matter which is taught is the same as that which is generally used in grammars, authors, and exercises. Touching grammars, I prefer *Lilly's* for Latin, *Camden's* for Greek, and *Buztor's Epitome* for Hebrew, not excluding any other that may conduce to the completing of grammar art. The authors which I prescribe to be used are partly classical, which every scholar should provide for himself; and because these are constantly learnt in most grammar schools, I appoint them to be read at such times as are usually spent in lessons.

The subsidiary books are those which are helpful to children in performing their tasks with more ease and benefit; and because all the scholars will not have like need of them, and they are more than any one will desire to buy, these should be laid up in the school library, for every form to make use of, as they shall have occasion. Some of these serve chiefly for the explication of grammar, and are applied to it; some are needful for the better understanding of classical authors, and are appropriated to them, and others are very requisite for the gaining of words and phrases and an ability for speaking or writing elegantly, and such times are set apart for perusing them as are commonly truanted in idleness or needless sport. Now by the joint using of these together, I endeavor that a scholar may have a pretty thorough knowledge of the language which he learneth, as well as of his bare grammar rules, without which it profiteth nothing. And therefore to help children more easily to gain the Latin, I have translated such books as they learn whilst they get the grammar, into their own mother tongue, so that by comparing and using both together, they may be able after good acquaintance with the Latin to wean themselves quite from English. He that desires further satisfaction concerning the translations which I have already made, may peruse the advertisement that I caused to be printed before *Cato's Distichs*, in English and Latin.

And if any man shall think to tell me that I seem to trouble my scholars with too many books at once, because a few if well learned will suffice to make a grammarian, I will give him here to consider:

1. That I have to deal with children who are delighted and refreshed with a variety of books, as well as of sports and meats.
2. That a schoolmaster's aim being to teach them languages and oratory and poetry, as well as grammar, he must necessarily employ them in many books which tend thereunto.
3. That the classical authors are the same as in other schools, and subsidies may be provided at a common charge, as I shall afterwards show.

The scholars in a grammar school may be fitly divided into six forms, whereof the three lowest, which are commonly under an usher, may be termed,

1. Rudimentaries, that learn the grounds.
2. Practitioners, that exercise the rules.
3. Proficients, that can speak and write true Latin.

The three highest forms are employed by the master to learn the Greek and Hebrew tongues, together with the Latin, and to gain some skill in oratory and poetry, and matters of humanity; and of these I may name the lowest *Tertiani*, the middlemost *Secundi*, and the highest *Primi*, because they seem to differ one from another in ability of learning, as the Roman legionary soldiers did in strength and the use of arms.

This division I have purposely made, so that whether one master alone be put to teach the whole, or have one, two or more ushers to assist him, he may constantly train up his scholars by one and the same way of teaching, (altering now and then only some circumstances, as his own discretion shall better direct him,) and every scholar may from his first entrance to the school proceed with cheerfulness in learning, when he seeth plainly what he is to do from year to year, and how others before him in a playing manner overship those seeming difficulties which he imagineth in his mind. And I conceive it will be no small satisfaction to parents, and a mean to cease the indiscreet clamors of some against schoolmasters, to see what method they observe in teaching, and how their children profit by degrees, according to their present apprehensions and growth in years.

And now the God of heaven and earth, in whose power alone it is to give increase, vouchsafe to bestow such a blessing upon our planting and watering, that our young plants may grow up in all godliness and good learning, and abound in the knowledge of our Lord Jesus Christ, whom only to know is eternal life. *Amen.*

## SCHOLASTIC DISCIPLINE.\*

BY CHARLES BOOLE, A. M.,

Master of a Grammar School at Rotherham in 1636, and of a Private School in London in 1600.

### CHAPTER I.—*Of the Founding of a Grammar School.*

THE most of the grammar schools which I have yet taken notice of in England are of two sorts. The first I may call mixed schools, where a structure is made, and an allowance given of ten, twenty, or thirty pounds per annum only to one man to teach children freely that inhabit within the precincts of one parish or of three or four neighboring hamlets adjoining. And such schools as these very seldom or never improve scholars further than to teach them to read and write, and learn some little (they know not what it meaneth) in the common grammar; partly because the master is overburdened with too many petty scholars, and partly because many parents will not spare their children to learn, if they can but find them any employment about their domestic or rural affairs, whereby they may save a penny. In some places more populous, an allowance is made to a master of about twenty pounds per annum to attend grammarians only, and ten pounds to an usher, whose work it is to teach the petties. In such schools as these, I have known some boys more pregnant-witted than the rest, to have proved very good grammarians, and to have profited so in the Latin and Greek tongues as to come to good maturity in university studies, by a tutor's guidance. But the masters of such schools for the most part either weaken their bodies by excessive toil, and so shorten their days; or (as soon as they can fit themselves for a more easy profession, or obtain a more profitable place) after a few years quit their school, and leave their scholars to another's charge, that either hath his method to seek, or else trains them up in another quite different from that which they had been used to. And thus through the

\* The following is a copy of the original title page:

SCHOLASTICK  
DISCIPLINE:  
OR,  
The WAY of ordering  
a Grammar-Schoole,  
Directing the not experienced  
how he may profit every par-  
ticular Scholar, and avoid  
Confusion amongst  
a multitude.  
By C. H.  
LONDON,  
Printed by J. T. for Andrew Crook,  
at the Green Dragon in Pauls  
Church Yard, 1639.

change of masters the scholars are either dispersed or hindered from going on with that alacrity and profit which otherwise they might.

The second sort of schools are those which are purely grammatical, being especially conversant in teaching the art of grammar. Now some of these have yearly salaries for a master and one usher, where the master is employed in perfecting those scholars which the usher hath already grounded. And many of these schools, (especially if they be situated in places where accommodation is to be had for tabling,) do happily train up many scholars which about sixteen or seventeen years of age are fit to be sent to the university. But in regard there is no preferment attending these schools, the most pregnant-witted children are commonly taken thence, after they are well grounded, and disposed on to other places, where they may gain it. So that of all others our collegiate schools, or those that come nearest them, have the greatest advantage of making most scholars. For these having commonly large revenues belonging to them, do not only provide sufficiently for a master and one usher at least, but also for a certain number of scholars, which being for the most part the choicest wits picked out of other schools, and such as depend upon hopes of advancement, do industriously bestir themselves to attain what learning they can, and submit themselves orderly to such discipline as is there exercised. But forasmuch as these greater schools rather intend the forwarding of such children as are already grounded, than busy themselves about mere rudiments, it causeth many parents to disperse their little ones abroad to tabling-schools, where (for the most part) there is but one man to teach a few promiscuously hand-over-head, without any settled method, and these changing and removing ever and anon as cause is offered, do seldom attain any stable proficiency in grammar learning. Yet in some of these, where an able schoolmaster is well seated and provided with all fitting accommodations, so as to entertain many gentlemen's sons of good quality, and an able usher to assist him in teaching, I have observed children to make double profiting in respect to other schools, because they have the advantage of spending much of that time at their books which others trifle away in running up and down about home; not to say that the constant eye of the master is an especial means to regulate them in point of behavior.

Now comparing all the schools which we have in England with some that I read of in other countries, (that I may speak freely, and without offense to any man, submitting myself herein also to the judgment of those of my profession,) I do not know one that is so completed as (perhaps) many might easily be, with all necessary accommodations and advantages to improve children to what they are capable of in their playing years, and wherein we evidently see how many places of education beyond the seas do quite outstrip us.

And therefore from what I have heretofore read in Mr. Mulcaster's *Positions concerning the training up of children*, in chap. 40, (which he wrote when he had been twenty years schoolmaster at Merchant Tailors' School, which was erected in 1561, being afterwards head master of Paul's in 1600,) and what I have been informed touching Mr. Farnaby's improvement of a private grammar school in Goldsmith's alley, now called New street, also Jewen street; and what I myself have experienced for about fourteen years together both in that place and in Lothbury Garden, I am induced to think that it is a matter very feasible to raise many of our grammar schools to a far higher pitch of learning than is ordinarily yet attained in England. For whereas in most of our grammar schools (as I

have noted) there is but one, two, or three ushers besides a master, employed in teaching the Latin and Greek tongues, and some smattering of the Hebrew, together in one room to six or seven forms of scholars, who by reason of the noise of one another (not to mention the clamor of children) and the multiplicity of their work, with several boys in each form, do both over tire themselves and many times leave things to the halves; I conceive a course may be taken (especially) in cities, and towns of greater concourse, to teach a great multitude of scholars (as Corderius professeth to have taught five hundred, and I have been informed that in some places beyond seas, twenty-five hundred are taught in one school) without any noise, in a pleasing and profiting manner, and in their playing years, not only the English, Latin, and Greek tongues (together with the duties of piety and civil behavior) but also the Eastern and other needful foreign languages, besides fair writing, arithmetic, music, and other preparatory arts and sciences which are most obvious to the senses, and whereof their younger years are very capable; that thereby they may be fitted for ingenious trades or to prosecute higher studies in the universities, and so be able (when they come to man's estate) to undertake the due management of private or public affairs, either at home or in other countries.

He that shall but consider the low ebb that learning was brought to (by reason of the Danish barbarism) in England in King Alfred's days, who could not find a master in all his dominions to teach him the Latin tongue, (which he began to learn at thirty-six years of age, having begun to read English at twelve, which his elder brethren, because less studious, could not attain to) and the paucity of them that understood Greek not much above threescore years ago, when a scholar (yet living) of thirteen years old from the school was owned as a better Grecian than most of the Fellows of the College to which he went; he that, I say, shall consider the former rareness of the Latin and Greek tongues in England, and now see how common they are (especially since Queen Elizabeth's days, in whose time more schools were built than there were before in all her realm,) and withal take notice what an excellent improvement that noble spirited Mr. Busby hath of late made at Westminster School, where the Eastern languages are now become familiar to the highest sort of scholars, will undoubtedly think (as I do) that our children may be brought on to far more knowledge of language and things than hitherto they have been, and that also in a more easy manner.

And forasmuch as I observe it as a great act of God's mercy towards his Church, that, in this jangling age of ours, wherein too many decry learning, he hath raised up the spirit of some that know better what it is, to endeavor heartily to advance it, I shall here address my words to such, whosoever they are, but more especially to the honorable and reverend trustees for the maintenance of students. And as before I have hinted somewhat touching the erecting of petty schools (whereof there is great need, especially) in London, so I will here presume (and I hope it will prove no offense) to publish what I have often seriously thought and sometimes spoken with some men's approbation, touching the most convenient founding of a grammar school; that if it shall please God to stir up any man's spirit to perform so pious a work, he may do it to the best advantage for the improvement of piety and learning. For when I see in many places of this land what vast sums have been expended (even of late) in erecting stately houses and fencing large parcels of ground for

orchards and gardens and the like, and how destitute for the most part they stand, and remain without inhabitants, I am too apt to think that those persons who have undergone so great a charge to so little purpose, would willingly have disbursed as much money upon a public good, did they but rightly know how to do it; since thereby their name and memory will be more preserved, especially if they have no children or posterity of their own to provide for.

But to return to the contrivance of a school, which is to be in many things (as I have mentioned) above the ordinary way of schooling, yet gradually distant from and subordinate to university colleges, which would thence also take a further rise towards perfection in all kinds of study and action. For the better grounded a scholar is in the principles of useful matters when he comes to the university, the greater progress he will make there in their superstructures, which require more search and meditation; so that at last he will be able to discover many particulars which have not yet been found out by others, who (perhaps) have not gone so rationally to work as he may do, having obtained the whole encyclopedia of learning to help him in all sorts of books.

Such a school then as may be fit for the education of all sorts of children (for we have seen the very poorest come to dignities of preferment by being learned,) should be situated in a city or town of great concourse and trading, whose inhabitants are generally addicted and sufficiently accommodated to entertain tablers, and are unanimously well affected towards piety, learning and virtue. The place should be healthfully and pleasantly seated in a plentiful country, where the ways on all sides are most commonly fair, and convenient passage is to be had from remoter parts both by land and by water.

The school-house should be a large and stately building, placed by itself about the middle of the outside of a town, as near as may be to the church and not far from the fields, where it may stand in a good air and be free from all annoyances. It should have a large piece of ground adjoining to it, which should be divided into a paved court to go round about the school, a fair orchard and garden, with walks and arbors, and a spacious green close for scholars' recreations; and to shelter the scholars against rainy weather, and that they may not injure the school in times of play, it were good if some part of the court were shedded or cloistered over.

This school-house should be built three stories high, whereof the middlemost, for more freedom of the air, should be the highest abovehead, and so spacious that it may contain (at least) five hundred scholars together, without thronging one another. It should be so contrived with folding doors made betwixt every form, as that upon occasion it may be all laid open into one room, or parted into six, for more privacy of hearing every form without noise or hindrance one of another. There should be seats made in the school, with desks before them, whereon every scholar may write and lay his book, and these should be so placed that a good space may be left in the middle of the school, so that six men abreast may walk up and down from form to form. The ushers' pews should be set at the head ends of every form, so that they may best see and hear every particular boy. And the master's chair should be so raised at the upper end of the school that he may be able to have every scholar in his eye, and to be heard of all when he hath occasion to give any common charge or instruction. There may be shelves made round about the school, and boxes for every scholar to put his books in, and pins whereon they may hang their hats,

so that they be not trodden (as is usual) under feet. Likewise every form should have a repository near unto it, wherein to lay such subsidiary books as are most proper for its use. The lowest story may be divided into several rooms, proportioned according to the uses for which they are intended, whereof one should be for a writing school, another for such languages as are to be taught at spare hours; and a third as a petty school for such children as can not read English perfectly, and are intended for the grammar school. A fourth room may be reserved for laying in wood and coals, and the rest made use of for ushers or scholars to lodge in, or the like occasion, as the master shall think best to dispose of them to the furtherance of his school. In the uppermost story there should be a fair, pleasant gallery wherein to hang maps and set globes, and to lay up such rarities as can be gotten in presses or drawers, that the scholars may know them. There should likewise be a place provided for a school library, and the rest may be made use of as lodging rooms for ushers and scholars. But the whole fabric should be so contrived that there may be sufficient lights and chimneys to every form and room. As for a house of office, it should be made a good distance from the close, where it may be most out of sight and least offensive.

The master's dwelling-house should be nigh the school, and should contain in it all sorts of rooms convenient for entertainment and lodging, and necessary offices that pertain to a great family. It should have a handsome court before it and a large yard behind it, with an orchard and garden, and some inclosure of pasture ground. And there should be two or three rooms made a little remote from the dwelling-house, to which scholars may be removed and kept apart, in case they be sick, and have somebody there to look to them.

Now that every scholar may be improved to the utmost of what he is capable, the whole grammar school should be divided into six forms, and those placed orderly in one room, which (as I have described) may be so divided into six that the noise of one form may not at all disturb or hinder another. There should also be six able ushers, for every particular form one, whose work it should be to teach the scholars according to the method appointed by the master, and (that every one may profit in what he learneth) to be sure to have respect to the weakest, and afford them the most help.

The master should not be tied (as is ordinary) to a double work, both to teach a main part of the school himself, and to have the inspection and government over all; but his chief care should be (and it will be business enough for one) to prescribe tasks and to examine the scholars in every form, how they profit, and to see that all exercises are duly performed and good order constantly observed, and that every usher is dexterous and diligent in his charge, and moderate in executing such correction as is necessary at any time to be inflicted for vicious enormities, but seldom or never for errors committed at their books.

As for the maintenance of such a school, it should be so liberal that both master and ushers may think their places to be preferment sufficient, and not be forced to look for further elsewhere, or to direct their spare hours' studies towards other callings. It were to be wished therefore that a constant salary of (at least) 100*l.* per annum might be allowed to the master, and 30*l.*, 40*l.*, 50*l.*, 60*l.*, 70*l.*, 80*l.* per annum to his six ushers. The raising of which maintenance, (to use Mr. Mulcaster's words) as it will require a good mind and no mean purse, so it needs neither the conference of a country nor yet the revenue of a

Roman emperor. Besides, the master for his encouragement should have liberty to make what benefit he can by tabling-in strangers; and every one of the abler sort of inhabitants in the town should pay him (at least) 10s. per quarter for a son's teaching, but all the poorer children should be taught gratis, on condition that they be sent constantly to the school, and that their parents do engage that they shall keep good order and be cleanly and neat in their apparel, that they may not seem to disgrace their fellows or to be disdained by them for their poverty.

It would withal be a great encouragement to this poorer sort of children to learn, if some whom God hath enriched with more than enough would spend the *supererogation* of their wealth (as Mr. Mulcaster terms it,) in affording exhibitions of 8*l.* or 10*l.* per annum towards keeping them at the school, or sending them abroad, as they are fit, to trades or universities. They that go thither should have larger exhibitions allowed them, upon condition that they employ more time than others in the study of tongues and critical learning, for the promoting whereof I shall only propound Mr. Mulcaster's question in his own words, which are these: "If there were one college where nothing should be professed but languages only, (as there are some people who will proceed no further) to serve the realm abroad and studies in the university, in that point excellently and absolutely were it not convenient? nay, were it not most profitable," &c. As for what he writes further, (in chap. 41 of his *Positions*) touching the division of colleges by professions and faculties; and Mr. John Drury hath lately published (in his *Reformed School* and his *Supplement* thereto) concerning the bringing together into one society such as are able to exercise themselves in any or all kinds of studies, that by their mutual association, communication, and assistance in reading, meditating, and conferring about profitable matters, they may not only profit their own abilities, but advance the superstructures of all learning to that perfection which by such means is attainable; I refer the more judicious to their books, and leave it to the consideration of those that endeavor to promote school-teaching, whether such a school as I have now delineated would not be of great concernment to the church and commonwealth, whereout to pick more able schoolmasters that by degrees have been exercised in teaching all sorts of scholars for (at least) seven years together, than many men that have scarce saluted or are newly come from the universities can suddenly prove to be. For I think it one thing to be a good schoolmaster, and another thing to be a good scholar, though the former can not well do his duty as he ought except he be also the latter.

I might here bewail the unhappy diversion of Jesus College in Rotherham, in which town one Thomas Scot, *alias* Rotherham, (a poor boy in Ecclesfield Parish) having had his education, and being advanced to the Archbishopric of York, in the time of Edward the Fourth, did out of love to his country and gratitude to the town, erect a college as a school, for a provost, who was to be a divine, and to preach at Ecclesfield, Laxton, and other places, (where the college demesnes lay;) and three fellows, whereof one was to teach grammar, another music, and the third writing; besides a number of scholars, for some of whom he also provided Fellowships in Lincoln College, in Oxford. But in the time of Henry the Eighth, the Earl of Shrewsbury (who, as I have heard, was the first lord that gave his vote for the demolishing of abbeys) having obtained Roughford Abbey in Nottinghamshire, (to the Prior whereof the lordship of the

town of Rotherham belonged) took advantage also to sweep away the revenues of Rotherham College, (which, according to a rental that I have seen, amounted to about 2000*l.* per annum) and after a while (having ingratiated himself with some townsmen and gentlemen thereabout by erecting a cockpit,) he removed the school out of the college into a sorry house before the gate, leaving it destitute of any allowance, till Mr. West (who wrote the *Precedents*) in the time of Queen Elizabeth, (and when Mr. Snell was schoolmaster,) obtained a yearly salary of ten pounds per annum, which is since paid out of the Exchequer, by the auditor of accounts. I remember how often and earnestly Mr. Francis West, who had been clerk to his uncle, would declaim against the injury done to that school, which indeed (as he said) ought still to have been kept in the college, and how when I was a schoolmaster there, he gave me a copy of the foundation, and showed me some rentals of lands, and told me where many deeds and evidences belonging thereto were then concealed, and other remarkable passages, which he was loth to have buried in silence.

But I only mention thus much touching that worthy foundation, to show how charitably some men have been addicted to cherish the roots of learning, and how covetously others have been bent to destroy the whole body of it, even in former ages. And I hope none will be discouraged from pious undertakings, for fear lest his benevolence should in these or after times be perverted, when he considereth that God looketh upon the sincerity of his ends, and will accordingly reward him, though what he religiously intended may unhappily be abused by others, contrary to his mind.

I shall now, to end this chapter, recite some remarkable passages of Mr. Mulsaster's out of his *Positions* (ch. 40,) which I leave to the consideration of others to think how far they concur with what I have said, as well concerning the foundation of a petty as of a grammar school.

"If any well disposed wealthy man, for the honor that he beareth to the murthered infants, (as all our erections have some respect that way) would begin some building even for the little young ones which were no increase to schools, but a help to the elementary degree, they all would pray for him, and he himself should be bound to the memory of the young infants which put him in remembrance of so virtuous an act.

"The opportunity of the place, and the commodity of able trainers, whereof a small time will bring forth a great many, will draw many on, and procure good exhibitors to have the thing go forward.

"I could wish we had fewer schools, so they were more sufficient, and that upon consideration of the most convenient seats for the counties and shires, there were many put together, to make some few good.

"The use of under-teachers is not as we now practice it in schools, where indeed ushers be masters of themselves, but to assist the master in the easier points of his charge, who ought to have all under his own teaching for the chief points, and the same under the usher's for the more usual and easy."

## II.—*How the Master should maintain his authority amongst his Scholars.*

Authority is the true mother of all due order, which the master must be careful in every thing to maintain, otherwise he may command what he pleaseth, but withal he must give the scholars liberty to do what they list. Which what a horrible confusion in their places, what insufferable neglect of their tasks,

what unruliness in point of behavior, what perpetual torment to the painful master and his ushers, and what unavoidable disgrace it bringeth upon a school, let them that are actors or spectators thereof give testimony. That therefore the master may have all his lawful commands put in execution with due alacrity, and his decent orders diligently observed, I conceive it requisite that,

1. He be sure in all things to behave as a master over himself, not only by refraining from those enormities and grosser faults which may render him scandalous to every one, but checking his own passions, especially that of anger; and if at any time he seem to have cause to be provoked to it, and feel it to come too violently upon him, let him rather walk aside awhile out of the school to divert it, than express it openly amongst his scholars by unseemly words or gestures. He should indeed endeavor to behave himself unblamably in all Christian-like conversation before all men, but so amongst his scholars that they may have much wherein to imitate him, but nothing whereby to disgrace him. And towards his neighbors his affability should be such as to win their love and respect, so that they may be ready at all times to countenance the master's well-doing, and to vindicate the credit of him and his school when they hear it unjustly traduced.

2. When he commands or forbids any thing to be done, he should acquaint his scholars with the end intended, and the benefits or inconveniences which attend such or such a course. For children have so much use of reason as to delight to hear persuasive arguments of reason, though the declivity of corrupt nature makes that they do not much mind them, where there is no fear of a rod for doing amiss. Yet sometimes it may be best to say only, "Do this," or "do it not," where you think it of no concernment to them to know the reason, and would make trial of their readiness to obey, without asking why or wherefore.

3. One main way to bring scholars to a loving and awful respect of their master, is for him to show himself at all times cheerful and pleasing towards them, and unwilling to punish them for every error, but withal to carry so close an eye upon all their behavior, that he can tell them privately, betwixt himself and them alone, of many faults they commit when they think he knows nothing, and let them see how he dare correct them for the like offenses when they presume to commit them again, and especially if they behave themselves stubbornly before their fellows. Yet to win a boy of a more stubborn spirit, it is better sometimes to forbear blows, when you have him submit to the rod, than to punish him so for a fault as to make him hate you, and out of a despite to you to do the like or a worse mischief. And when any general misdemeanor is committed, the master should show himself impartial towards all, so as either to pardon or punish all. But in inflicting punishments, as he should let none escape, so he shdould let the most untoward feel the most smart; but beware that he deal not rigorously, much less cruelly with any; for that will cause an utter dislike in all the scholars towards the master, fearing he will deal so with them in case they so offend, and thinking it to be no argument of love where severity of correction is used.

4. But nothing works more upon good-natured children than frequent encouragements and commendations for well-doing; and therefore when any task is performed or order observed according to his mind, the master should commend all his scholars, but especially the most observant, and encourage the weak and timorous, and admonish the most perverse amongst them to go on in

imitating their example, in hopes of finding as much favor at his hands as they see them to have.

5. In some places a master is apt to be molested with the reproachful clamors of the meaner sort of people, who can not (for the most part) endure to have their children corrected, be the fault never so heinous, but presently they must come to the school to brave it out with him; which if they do, the master should there in a calm manner admonish them before all his scholars to cease their clamor, and to consider how rash they are to interrupt his business, and to blame him for doing that duty with which he is intrusted by themselves, and others their betters. But if they go about to raise scandalous reports upon him, he may do well to get two or three judicious neighbors to examine the matter, and to rebuke the parties for making so much ado upon little or no occasion. Thus we shall see scholars abundantly more to respect the master when they know how grossly he is apt to be wronged by inconsiderate persons, and that wise men are ready to vindicate his cause. Whereas if they once see their master liable to every body's censure, and no man take his part whatever is said of him, they themselves will not care what tales they make to his utter disgrace or ruin; especially if he have been any whit harsh towards them, and they be desirous to outslip the reins of his teaching and government.

III.—*Of School times. Of Scholars going forth from the School, and of Play-days.*

Though in many schools I observe six o'clock in the morning to be the hour for children to be fast at their books, yet in most, seven is the constant time, both in winter and summer, against which hour it is fit that every scholar should be ready at the school. And all they that come before seven should be permitted to play about the school till the clock strike, on condition that they can say their parts at the master's coming in; else they are not to play at all, but to settle to their books as soon as they come.

But here the master is to take heed that he be neither too rigorous with those of weaker age or constitution for coming somewhat tardy, nor indulgent toward those who through manifest sloth and frequent loitering, neglect the hour. For in the one it will breed a daily timorousness, and in the other it will make way to licentiousness; and on the one side parents will clamor, on the other side the school will receive disgrace. However, it is best to be as strict as possibly may be, in seeing that every scholar come at the just hour, and to note it as a punishable fault in him that cometh late, except he bring a note of excuse from his parent's or host's hand, and a promise withal that he shall not often offend in that kind.

It is not amiss for every scholar in every form to put down his name in a book (kept common for that purpose) so soon as he comes to school every day, that it may be upon record whether he used to come with the foremost or the hindmost, and how often he was absent from the school; likewise every scholar's name should be called over according to the bill every school hour, and they that are present should answer for themselves by saying *adsum*, and his next fellow should give notice of him that is absent, by saying *abest*.

The common time of dismissing scholars from school in the forenoon is eleven o'clock every day, and in the afternoon, on Mondays, Wednesdays and Fridays, five o'clock, but on Tuesday afternoons, four; and on Thursdays, three. Touch-

ing which, care should be taken that the tasks of every form may be fully dispatched rather a little before those hours than after; that then the scholars which intend writing or ciphering, or the like, may go to the writing school, as they yet use to do about London. Neither would I have the scholars to be so precisely observant of the clock as just upon the first stroke of it to rush out of the school; but notice being given to the master that it is stricken, and he having given the word for dismissing the school, all the scholars should come one by one orderly out of their seats according to their forms (the lowest beginning first, because they are commonly next the door,) and salute him with their hats in their hands, and so quietly depart out of the school without thrusting, or striving one to get out before another. It were good if there were hour-glasses in the school, to give notice how the time goes on.

And for their readily going home, or to the writing school, there should be private monitors appointed to inform the master, so soon as they return to the school again, who they are that neglected their duty therein.

That space of intermission, about nine and three o'clock, which is used at Westminster School and some others, and is so much commended by Mr. Brinsley (chap. 33 of his *Grammar School*,) can not so well be observed, nor is it so requisite in those schools in which scholars meet not till seven in the morning; for the variety of their several tasks will take away that tediousness that seems to occur by the length of time, and those subsidiary books provided for the lower forms will prevent the over-toiling of themselves by their present work. And that those disorders which usually befall in scholars running forth in school-time may be somewhat remedied, this or the like course may be taken:

1. Let it not be lawful for above one boy in twenty to go forth at once; and at his going forth, let every one come to the master, or that usher to whose charge he belongs, and in his hearing repeat four or six vocabulas or phrases which he hath not said before, and then lay down his book, with his name written in it in a place appointed within the master's view, so that it may be known at once both how many and who are out of doors, and how long they tarry abroad. At their coming in, they should again repeat the like number of vocabulas and phrases as they did at their going forth.

The master would do well now and then to send a private spy, who may truly observe and certify him how every scholar spendeth his time abroad, and if any be found to go forth upon no occasion or to truant it without doors, let him be censured or reproved according to his demerits.

2. The granting of a playday is to be referred wholly to the discretion of the master, who must in this be as fearful to work his scholars' hindrance and the school's discredit, as willing by such a courtesy to gratify his deserving friends; who, if they be any whit reasonable, will be easily satisfied with a just excuse of denial; but if they be unreasonably importunate, they ought to be served with as unreasonable a nay-say; so that playdays should be rarely granted, except to such as may seem to claim more than ordinary interest in the school, and to whom the master is bound to show his due respects, especially before his scholars.

In places of great resort, and where often solicitation is made for play (especially by mothers who come to visit their children which are tabled at school,) it were good that a portion of an afternoon were designed constantly beforehand, on which (in case any suit should be made) the scholars might have leave

to play; but if not, that they be held to their books. Yet if there hath not a playday been granted, nor a holyday intervened for some weeks together, the master may of himself propound to his scholars that in case they perform all their tasks very well and orderly, so as to dispatch them by such an hour on such a day, they shall play the remainder thereof, and then (as at other times also when a playday is intended) one of the upper form (at least) should make a petitioning oration to the master or them that come to crave play; and another, a congratulatory speech, after leave is obtained.

Where both Thursdays and Saturdays in the afternoon are half holydays, I think Tuesdays the fittest on which to grant play; in other places, Thursdays may seem the best. But this I leave to the discretion of the master, who knoweth what is most convenient for his own school.

Now in granting a playday these directions may be useful:

1. That there be never more than one playday granted in one week, and that only when there is no holyday in that week, and when the weather also is clear and open, and the ground somewhat dry.
2. That no play be granted till one o'clock (at the soonest) when all the scholars are met and orations have been said.
3. That all the scholars be dismissed orderly into some close (or other place appointed for such a purpose) near the school, where they may play together, and use such honest and harmless recreations as may moderately exercise their bodies and not at all endanger their health.

And because some boys are apt to sneak home, or straggle from the rest of their fellows out of the bounds prescribed them to play in, you may do well to give order to him that hath the bill of all the names, to call it over at any time amid their sport, and to take notice of all such as have absented themselves, and to give you an account of them when they return into the school, which should be upon playdays before five o'clock, that they may bless God for his provident hand over them that day, and so go home. And that the master may sometimes see into various dispositions of children, which doth freely discover itself by their company and behavior at play, he may now and then take occasion to walk at a distance from them, or (if he come nearer) to stand out of their sight, so that he may behold them in the throng of their recreations and observe their gestures and words, which if in any thing they be not as becometh them, he may afterwards admonish them in private to behave or speak otherwise.

But an especial care must be taken and a charge accordingly often given, that your scholars do at no time play with any but their own school-fellows or other ingenuous children about home, which their parents or friends know, and whom they are willing should be admitted into their company; for besides the evil which may be contracted by learning corrupt discourse and imitating them in many shrewd turns, boys that are under little or no command will be very subject to brabble and fight with scholars, and the rather because they know the master will not allow his scholars at all to quarrel, and if they can do them any main they will attempt it, that the master may have occasion to call them to account for it. So perverse is our corrupt nature (especially) where education hath no sway.

*IV.—Of Admission of Scholars; of Election of Forms; and of scholars' orderly sitting and demeanor in their seats when they are at school.*

1. No children should (as I have formerly said) be admitted into a grammar

school but such as can readily read English and write a legible hand, or at least be willing to learn to write, and to proceed in learning Latin. And it is therefore best to try, in the presence of their parents or friends that bring them, what they can do, by causing them to read or write (if they can) before them, that themselves may be judges of their present strength or weakness, and expect proficiency from them according as they see their capacity, not hastening them on too fast and rating at them daily, because (perhaps) in their judgment they do not learn so well as their neighbors' children.

The best is to admit of young beginners only once every year, and then to take in all that can be gotten from the petty schools, for company will encourage children to adventure upon an untried course of learning, seeing the more the merrier; and any discreet parent will be easily persuaded to forbear his son a while when he considereth that it will be more for his profitng to have company along with him as he learneth, and he may be daily bettered in reading English, and forwarded by learning to write, before he come from the petty school.

The fittest season of the year for such a general admission of little ones into the grammar school, doth seem to be about Easter; partly because the higher boys are usually then disposed of to trades or the universities, and partly because most children are then removed from one school to another, as having the summer coming on for their encouragement.

When you have thus admitted a company of boys together, you may let those who can read best obtain the higher places, till they come to get the rudiments of Latin without book, and then you may rank them into a form. Because,

2. It is a main help to the master and a furtherance to all the scholars, that the whole school be reduced into forms, and those also as few as may be, respecting the different years and capacity of each scholar. And if there were six hundred scholars or more in a school, they might all fitly be ranked into six forms, by putting those of equal age and abilities together, and the toil in hearing parts or lessons, and perusing exercises, (as I will show anon) would not be much more with a hundred orderly placed and well behaved in a room to themselves apart, than with three or four single boys in several employments. Not only because the master or ushers do thus at once impart themselves to all alike, and may bestow more time amongst them in examining any task; but also because by this means emulation (as a main quickener of diligence) will be wrought amongst them, insomuch that the weakest scholar amongst them will be loth to lag always behind the rest; and there is none so stupidly blockish but by help of company will learn that he would not obtain alone, and I have seen the very hindmost oftentimes help all his fellows at a dead lift. The teacher's constant care should be, in every form, so to direct and examine every particular boy, so to help forward the weakest, that in every thing he doth, he may understand himself, and it is not to be said with what alacrity they will all strive to outdo one another, so that sometimes he that cometh behind all the rest will be as fit to make a leader of the form as those that are the foremost in it.

To provoke them all therefore to emulation, and that none may complain or think himself injured by being left behind, use constantly once at the end of a month, and when all your scholars are together, to make a free new choice in every form, after this manner:

1. Let every scholar in the form give his own voice concerning which boy he

thinketh to be the best proficient, and ablest for the present to lead the company; and having set him aside, let them all pass their voices again concerning whom they judge fittest to stand the next to him.

2. Then set these two opposite one to another, so that the better scholar may take the leading of the upper side, on your right hand, and the other the leading of the lower side on your left hand.

3. And that there may not be much inequality in the sides, let the lower leader have the first call, and liberty to take what boy he thinketh the strongest out of all the rest, and then let the higher leader have the next call, and liberty to take whom he liketh; and so let them proceed to call by course till they have (like ball players) ranked all their fellows to their sides, and so strongly and evenly set themselves in a posture one side against another, that it may be hard for any one to judge which is the stronger.

By thus choosing amongst themselves, they will all be so well pleased, that the master shall never be blamed for endeavoring to prefer one boy before another, or keeping any back that would seem to go faster than his fellows at his book. And indeed I have sometimes admired to observe the impartiality and judgment of children in placing one another according to their abilities and parts, waiving all other by-respects by which men would be inclined to set one higher and another lower. Yet if sometimes they seem to mistake in their judgment concerning a boy that is but newly come amongst them, or to be too partial against any other upon some general spleen, which is but very rare; the discreet master may, after the election, correct the error by giving such a one a place to his own liking, which he may keep till the next choice, except some of his inferiors have a list to dispute with him for his place, and then he must put it to the hazard, having a lawful time given him to provide beforehand for the contest.

4. Let all the scholars take their places in the school according to their several forms, and let every one sit in his form in that order in which he was elected. It were good that the seats were so equally set on both sides of the school, that the higher side of each form might keep the higher side of the school, I mean that on the master's right hand; and the lower side of the form the lower side of the school, which is that on the master's left hand. However, let the upper side take always the upper, and the lower the lower seats.

This placing of scholars in an opposite manner, side against side, is good in many respects, as,

1. To know on a sudden who is unruly in or absent out of his place.
2. To have them ready paired at all times for examinations, disputations, orations, or the like.
3. To keep order in going in and out of their seats to say, or in going home from school, or the like.
4. To increase courage in the scholars, who are delighted to let their friends see what place they keep amongst the rest, when they come to visit them.

As they sit in their seats, be sure to keep them continually employed, by proportioning every task to the time and their strength, with respect to the capacity of the weakest; for by this means the strongest boys will have more leisure to help and see that the weakest can do their work, for which purpose they should be appointed sometimes to sit in the middle amongst the rest, that they may more readily be consulted with and heard of all. These should sometimes construe and sometimes examine over their lessons, having their grammars and

ictionaries and other subsidiary books to help them, out of which they should appoint others to find what they inquire after; and this will be so far from hindering their own progress, that it will encourage them to go faster onward when they see how readily they can lead the way and incite their fellows to follow after them.

When in getting lessons the whole form shall be at a nonplus, let one of the leaders have recourse to the master or ushers, or to whom they shall appoint him to go for resolution. But I have found it a continual provoking of scholars to strive who should learn the fastest, to let both the sides of one form, as they sit apart, so to look to provide their lessons apart, and when they come to say parts or lessons, or to perform exercises, to bicker one with another, and profound those things to be resolved in by their opposites, which they observe the master to have omitted, and they think they can not tell. And let it be constantly noted which side hath the better all the week, that when afterwards they come to a general dispute at the week's end for places or sides, it may be considered.

V.—*Of saying Parts and Lessons, and of perusing translations and all other kinds of exercises.*

1. The best time for saying grammar parts or the like is the morning, partly because the memory is then the freshest, and partly because children may take the opportunity over night to get them perfectly at home. But forasmuch as vocabulas are more easy to be impressed on the mind, and require less pains in getting, I conceive it not amiss that children be continually exercised in saying them for afternoon parts at one o'clock, before which hour they may prepare themselves beforehand (even) amid their play.

After parts said, the master or his ushers should immediately give lessons to every form, or appoint a boy out of an upper form to give lessons to that which is next below him, in his hearing; which he should distinctly construe once or twice over, and note out all the words wherein the most difficulty of parsing seems to lie, and name the tropes and figures, the phrases and other elegances that are to be found (especially) in higher authors.

The lessons should be got ready to be said against ten o'clock in the forenoon and four in the afternoon, at which time the scholars should all come orderly and quietly out of their form, and taking their places where they ought to stand, (so as one side may be opposite to another,) they should all make their salutes, and then say one after another, except they be appointed otherwise.

For sometimes when you have occasion to make more hasty dispatch with a form, you may cause any one or more to say the whole lesson or by pieces; but be sure that they all come very well provided, and that every one be intent upon what another is saying, for which purpose you may note him that hath been most negligent in his seat, and ask him ever and anon what it was that his fellow said last.

To save your own lungs in asking many questions and telling rules or the like, you may let every two boys examine one another, and yourself only help them when they are both at a mistake.

You may easily amend that common and troublesome fault of indistinct and muttering speaking, by calling out a bold spirited little boy that can speak with grace, and encouraging him to give the other a higher note for the elevation of

his voice; for this will at last force the boy you are troubled with to speak louder and with a better grace, and to strive to pronounce his words more distinctly than the other did before him.

After lessons are ended, you may let every one propound what questions he pleaseth for his opposite to answer, and this will be a means to whet them on to more diligence in getting them before they come to say.

In the three lowest forms, or in others where all have the same translations or dictates, you may cause only him whose performance you most doubt of, to read what he hath written both in English and Latin, and help him, as you find his error, to correct it, and see that all the rest amend their own faults accordingly. Afterwards you may let one parse it both in English and Latin, and order them all to write it over again fairly in a paper book for themselves, and to give you also a copy of it neatly written in a loose paper every Saturday. And thus you shall have every one begin to lean on his own strength, a thing very necessary in all kinds of exercises, though they do the less. If you once take notice of any boy's strength, you may easily judge of what he bringeth, whether it be his own or another's doing.

But in the upper forms, and where they have all several exercises, it is necessary that you peruse what every scholar hath done. And for this work you may set apart Saturday forenoons, after grammatical examinations are ended, and before they say their catechisms. And that they may write them fair, you should sometimes compare them with their copy-books or such pieces as they wrote last at the writing school. Before they bring them to you to read, let them peruse one another's exercise amongst themselves, and try what faults they can find in it; and as you read them over, where you see a gross mistake, explode it; where you espy any oversight, note it with a dash, that they may amend it; but where you see any fault which is beyond their power to avoid or remedy, do you mildly correct it for them, and advise them to observe it for the future. However, forget not to commend him most that hath done the best, and for his encouragement to make him read over his exercise aloud, that others may hear it, and then to hang it up in an eminent place, that they may imitate it; and if any one can afterwards outdo it, let his exercise be hanged up in its stead. But if any one hath lazily performed his exercise, so that it be worse than all the rest, let it be cut in the fashion of a leg, and be hanged up by the heel till he make a better, and deserve that that may be taken down. It is not amiss also, to stir them up to more diligence, to have a common paper book wherein the names of all in every form that have *optimè* and *pessimè* performed their weekly exercises may be written, and that the one may have the privilege to beg a playday once a month or to obtain pardon for some of his fellows, and the other may be confined to some task when a playday is granted.

VI.—*Of weekly Repetitions. Of Grammatical Examinations and Disputations. Of collecting phrases and gathering into commonplace-books. Of pronouncing orations and declamations.*

I have not in either of the foregoing treatises made mention of any thing to be done on Fridays, because that day is commonly spent in most schools in repeating what hath been learned in the foregoing part of the week; which custom, because it is a means to confirm children's memories in what they learn, I willingly conform unto.

After chapters therefore read in a morning, let them repeat their wonted parts and afterwards their lessons, all which they will be able to say together out of their several authors, so that some be made to repeat out of one book and some out of another.

For if due care be but had beforehand that scholars be very ready and perfect in their daily tasks, it will take away all toil and timorousness which usually attend these repetitions, and make that this day will become the veriest play-day in all the week; when boys shall see that they have nothing to do but what they can do already, (at least) with a little looking of it over on Thursdays towards evening at home. What they have translated out of any author in prose should be read out of English into Latin, and what they learn in poets should be said (as well as can be) by heart, both for the verse and the matter's sake, which will furnish them with authorities and sharpen their invention for versifying.

After repetitions ended, the master should note all the phrases and sentences, and other things observable in their lessons, which they should transcribe into phrase-books and commonplace-books, for their constant use in writing or speaking or making exercises, as we have mentioned already before.

And because the most leisure is gained on Friday afternoons, it will not be amiss about three o'clock to let every form dispute side with side, one after another, after this manner:

1. Let every one propound to his opposite two or three questions which he thinks most difficult out of his week's work, which if the other can not answer readily before he count six, or ten in Latin, let him be *captus*, and the questions be propounded to his next fellow. The lowest in the form may begin the dispute, and so go on to the highest on either side, who should keep reckoning of those that are capt, and how often.

2. Besides their week's work, they may try who can most perfectly repeat *memoriter* a part of the grammar, or any author which they read, or who can recite the most vocabulas under one head, or who can vary a phrase the best, or imitate any piece of an orator or poet.

3. Some time should also be spent in capping Latin verses amongst the lower forms, and Greek vērses amongst the highest, for which they may provide themselves out of a *Capping-book*, which seems to be made on purpose by Bartholomeus Schonborn, or *Gnomologicon Poeticum*, made lately by Mr. Rosse, besides which they may contrive a little book of their own wherein to write verses alphabetically out of the best poets.

Let that side which appeareth to be the victor have the upper seat in the school till a new choice be made, except the other can win it from them before and bring them back with a hissing disgrace.

Amid these disputes the master must have a great care to suppress noise and tumultuous clamor, and see that no boy stirs out of his appointed place. For they are apt to heighten their spirits beyond moderation if the master's discretion do not settle them.

Let it now be lawful for any lower boy in a form to dispute with one above him for his place. Mr. Stockwood's *Disputations* will be helpful to the upper scholars.

Now that all your scholars may be thoroughly grounded in their grammar, so as not to be apt to forget what they have learnt in it, let them all be exercised in the examination of a part of it every Saturday morning, thus:

1. Let the first and lowest form examine the two next above them out of the examination of the *Accidents*, asking them the questions as they are in the book, and causing them to answer without book, and according to the *Accidents*.

2. Then let all those three forms run over the examples of the declensions and conjugations, as I formerly showed, and try who can puzzle one another in declining any hard noun or conjugating and forming any verb, and give the rule of the genders of the one, or preterperfect tense or supine of the other. When these have done,

3. Let the fourth form examine the two highest forms in *Examinatio Latinae Grammaticae*, and sometimes in *Elementa Rhetorices*, and then

4. Let all these three forms run over the paradigms of the Greek declensions and conjugations.

5. Afterwards the two upper forms may bicker with one another touching grammar niceties, either Latin or Greek, which they have taken notice of and collected into a commonplace-book, as I mentioned before. But a principal care must be had to bring all your scholars to a habit of speaking Latin, and therefore a strict law should be made and observed, that every scholar (especially after he hath been one-quarter of a year at school) should either learn to speak in Latin or be forced to hold his tongue. And to help the little ones in so doing, besides those *Phrasiuscula* at the end of the *Grounds of Grammar*, they should have *Formule loquendi quotidiana*, such expressions as are every day used (especially about the school) written down in a little book, that they may get them by heart at by-times. As for the other boys, they will be better guided how to speak by the rules of grammar and the constant use and imitation of approved authors. I conceive the penury of proper words and good phrase with many teachers, is a main reason why children are not as well trained up to speak Latin in England as they are in many places beyond seas, and the ready and frequent use of their mother tongue causeth that they are hardly reclaimed from it to make use of another language. Whereas if whilst they are at the school, they might hear little or no English spoken, nor be suffered to speak it, they would quickly conform themselves to discourse in Latin; as I have known French boys that understood not a word in English, to be able in two or three months to talk it as readily as they that were English born. Only at the first one must wink at their improprieties and harshness in the pronunciation of some words and phrases, and take their meaning by what they speak, and after a while by custom and imitation of others, they will speak in Latin as properly as the best, especially after they have gained the knowledge of grammar, and accustomed themselves to observe the style of Latin authors.

No day in the week should pass on which some declamation, oration or theme should not be pronounced, about a quarter of an hour before the school be broken up, and after lessons are all ended in the forenoon; that by assiduity in these exercises, the scholars may be emboldened to perform them with grace before whomsoever, and upon occasion of any solemnity or coming of friends into the school. There should be two standing desks set opposite in the midst of the school, for boys to stand at when they pronounce.

VII.—*Of exercising scholars in the Scriptures. Of using daily prayers and singing psalms. Of taking notes at sermons, and examination after sermons.*

1. Besides that course which we have prescribed before to every form, of

reading part of a Latin or Greek chapter before parts, it is necessary for children's more profiting in the Scriptures to cause that an English chapter be read every morning at the beginning, and every night at the giving over teaching. And in this every boy throughout the school should take his turn, that it may be known how perfect he is in reading English readily and distinctly. Let him that is to read take his place at a desk in the middle of the school, and be sure he speak aloud, and let every one reverently attend to what is read, the lower boys looking upon their English and the higher upon their Latin Bibles. Those also that are able to make use of the *Septuagint* in Greek, may do well to procure them to look upon, especially seeing they are now to be had at a far cheaper rate than formerly, being but lately printed. When the chapter is ended, you may demand of one in each form what he observed, and let any one that is disposed take the liberty to ask his opposite a question or two concerning some passage in it. Mr. Paget's *History of the Bible* will assist them herein, so they look upon it before the chapter be read; you yourself may do well sometimes to tell them what things are most remarkable in that present chapter. The scholars of the upper forms may do well to carry *Memoriale Biblicum* constantly in their pocket, by which they may be put in mind at all times what passages they may find in any chapter.

2. After the chapter is ended, they may sing the first, threescore and second, the hundredth, or hundred and thirteenth Psalm in Latin out of a little book formerly printed at Oxford, which one of the head scholars should distinctly read unto them.

3. When the psalm is done, the same scholar should repeat those admonitions at the end of *Novel's Catechism*, and then the whole school should rehearse those hymns which are there, the higher side of the school saying one verse, and the lower the next, *alternatum et conjunctis vocibus*; and at last conclude with one of those prayers for a blessing upon your endeavors.

These prayers and psalms would be all written together both in English and Latin in a little book, which would be necessary to be kept in the school, for continual and daily use.

Some course should be taken that the master may have notice what scholars omit the reading of a chapter at home every night after supper; but for this pious exercise (I hope) every Christian parent will be ready to call upon and encourage their own children, or others that are under their charge as tablers.

Now that the good schoolmaster may more fully discharge his duty towards God and his Church, (who have both intrusted him with the education of their children,) to nurture and bring them up in the fear of the Lord, it were expedient, if a course could be taken, that he might meet them all at the school every Lord's day in the morning, about an hour before church time, where he may take the opportunity to instruct them in catechetical doctrines, according to what he may read in many excellent books that are as expositions of the Lord's Prayer, the Creed, and the Ten Commandments, and not wile it in a tedious, unmethodized discourse concerning things unnecessary to be taken notice of, and unmeet for children to be puzzled with. And after a psalm sung, and a prayer said, he may see them go all before him orderly by two and two to the church, where it is requisite that they should have a convenient place appointed to sit in together by themselves, and all within the master's view. This would be an especial means to prevent that unreverent behaviour in the

church which is too usual amongst scholars, when they are glad to wander into by-corners to sit down to rest (or rather chat) in, or are ever and anon molested with quarrelsome lads or unmannerly fellows, that are apt to disquiet them and thrust them out of their places. I have heretofore observed how the ninth canon of our Church religiously enjoins every schoolmaster to see his scholars quietly and soberly behave themselves in the church, and examine them at times convenient after their return, what they have borne away of any sermon, which he can not well do except he have them all confined to one place, where himself may sit near them.

After church time ended in the afternoon, the master may do well to see all his scholars go before him in like order to the school, where he should examine them, what they have heard or written at the sermon. Now in repeating sermons this course may be taken:

1. Let every one of the lower scholars repeat the text, or a proof, or some little pious sentence which was then delivered. And these he should get either by his own attention at the church, or by the help of his fellows afterwards. For there should be no stir made in the church, upon pretense of getting notes therof.

2. Those in the four middlemost forms should mind to write the text, doctrines, reasons, uses, motives, and directions, with the quotations of Scripture places, as they are best able.

3. Those in the highest form should strive to write as much and in as good order as possibly may be, yourself now and then hinting to them some direction what method they should observe in writing sermons, and that may digest what they have written into that order wherein they heard it delivered. Let them have a little time of respite amongst themselves, to compare their notes one with another, and to supply their defects and amend what they have mistaken. Then

4. You may first cause one of your higher scholars to read distinctly what he hath written, and afterwards two or three of other forms, whom you please to pick out; and last of all, let every one of the lowest form tell you what he hath observed of the sermon.

These things being orderly done, you may enlarge a little upon what point you think most necessary for them to remember and practice, and conclude this holy day's exercise with the singing of a psalm and devout prayers, and charging your scholars to spend the rest of the time in reading the Scriptures and such religious books as tend to their farther profiting in Christian piety, you may comfortably dismiss them to their several homes, and expect God's blessing upon your endeavors for the week following.

#### VIII.—*Of the Monitor's Bill; and of rewards and punishments in a Grammar School.*

That no disorder or vice committed either at school, church, or elsewhere, may pass unnoticed by the master, he may cause his scholars in the two upper forms to play the monitor in their weekly turns, from Friday to Friday.

They may make one bill to serve for all the week, proportionable to the number of scholars of every form, after this manner: [e. g., *First Form.*]

Novemb. 1659.		F.	S.	S.	M.	T.	W.	Th.
1.	G. C.		.					
	J. O.		.					
	T. P.						..	

Wherein you see the letters above denoting the days of the week, the letters on the side show the place where every scholar's name should be written, and the prick within the lines, how every default may easily be marked with a pin or a pen. So that,

1. This bill may serve as a catalogue to be called over every day at school hours to know who are absent, and may save a deal of trouble in making little notes of scholars' frequent misdemeanors.

2. If you cause every bill to be dated, and keep them by you, you may know at any time who is the shrewdest or most orderly boy amongst the rest, and give public notice accordingly, that the one may be admonished to amend his manners, and the other encouraged to go on in well doing.

3. Besides, it will work the greater awe among all the scholars, when they shall know that every fault they commit whilst they are at the school will be upon record, though the master doth never punish it.

4. You shall find it a means of much ease to yourself when you shall need only to bid the monitor take notice of a neglect or fault committed, and let it so remain till some fitter opportunity or just occasion invite or (rather) enforce you to call to a reckoning.

5. For when you perceive any general disorder, or some gross thing is done which ought not to escape correction, you may call for the bill, and then censure those only for example whom you find to be most often and notoriously peccant, suffering the rest (that you called forth) to escape with an admonition to beware for the future.

Thus you shall gain your scholars' affections when they shall see you unwilling to punish any without great cause, and avoid that common outcry which is wont to be made against a schoolmaster, upon report of a multitude of boys being whipped at once.

6. So many marks as are found upon any boy's name may be said to deserve so many jerks; but herein much discretion is to be used, that you seem not too severe nor prove too partial. You may sometimes tell your scholars what faults deserve more or fewer marks, as idleness one, wandering forth one, fighting three, swearing four, or the like; which are to be noted in the bill more or less, according to the nature of the faults themselves.

He that is public monitor in one of the two highest forms may appoint two private monitors to himself in every other form, who may give him secret information of every misdemeanor committed in any place; and this will be an especial means to keep all in very good order, with seldom and moderate correction, a thing to be desired by every schoolmaster for his own ease and his scholars' better encouragement.

Those scholars in every form which are indeed the most studious and diligent in their tasks and constantly observant to keep good order, should often be commended to their fellows as patterns for them to imitate; and when any one hath performed any task or exercise better than ordinary, he should receive some

small gift at his master's hand, as a new penknife or a paper book, or the like signal testimony of the master's approbation of what he hath done. Those parents which are of more ability may do well to allow the master a small sum of money to reward their sons' diligence now and then, and to excite them to the better performance of their tasks and exercises, which will invite them to go faster on in learning than a rod can drive them.

As for inflicting punishments even upon the meanest and worst of children, it should ever be the most unwilling piece of work that a master can take in hand; and therefore he should not be hasty to punish any fault whereof the scholar hath not been premonished, except it be such a notorious crime as a boy can not but know beforehand that he ought not to have done it. As for the ferula, I wish (and as I have already done) for many reasons, which it is needless to commit to paper, that it might be utterly banished out of all schools. A good sharp birchen rod, and free from knots, (for willow wands are insufferable, and fitter for a bedlam than a school) as it will break no bones nor endanger any limbs, so it will be sufficient wherewith to correct those that shall deserve it in the lower forms, and for the higher scholars that will not behave as they ought to do without blows, a good switch about their shoulders would (in Quintilian's judgment) seem fitter than a rod elsewhere; and his reason is so modestly agreeable to nature, that as I am loth to mention it, so I wonder that it hath not more prevailed with many discreet schoolmasters, who (I persuade myself) have often read it, and can not but approve of it as most Christian, however it dropped from a heathen's pen. But *Nobilit equis umbra virga regitur*. Ingenuous and towishly scholars will not need so much as the shadow of a rod. And towards others that seem to extort a rod from the master whether he will or not, and (as I may say) will enforce him to fight, he should generally use such clemency in his hand as not to exceed three lashes, in the laying on of which he may contribute more or less weight, with respect to the demerits of the fault. But of this he should always make sure, that he never let the offender go from him with a stubborn look or a stomachful gesture, much less with a squealing outcry or muttering to himself; all which may be easily taken off with another smart jerk or two; but you should rather let him stand aside a little, and see how his stomach will settle.

That a boy may at once know you dare adventure to whip him, and withal how little you delight in his skin, you may at some time when he hath cause to think that he hath well deserved a whipping, and when you have him ready for the rod, pass him over with an admonition to beware another time; and if he again be peccant in the same kind, you may give him more cause at present to remember both his faults together, and for the future to avoid them.

This even and indifferent carriage in rewards and punishments will make those scholars that have any ingenuity in them, less willing to offend, and incline the rest to behave more dutifully, because they see their master bear such a loving mind towards them all, and to be sharp in punishing none but those that know they well deserved what blows they had.

As for those boys that do slight good order, and are apt to stir up others to reject them (which are usually those of bigger stature) that perhaps have not been acquainted with your teaching or government, or know they shall shortly remove from under your command, or those that without any cause love to truant it abroad, or by other licentious demeanor bring disgrace to your school

or offer any affront to yourself, I conceive your best way is (at a fitting opportunity) to send for their parents or friends, with one or two judicious neighbors to be by (where there are no governors of the school) and let them justly know the fault, and adjudge what punishment such a boy deserveth; but if the parents be unwilling to have him corrected for his peremptory disorders, choose rather to send him home with them than retain him any longer, to the disturbance of the school or your own unquiet. This you shall find as an especial remedy to prevent such clamorous outcries of supposed tyranny, when every jerk that is given to a notorious unhappy boy for his insolent misbehavior shall chance to be multiplied in the relating, (like Scoggins' crows,) from three to thirty; which base obloquy and misreport, what hindrance it bringeth to the flourishing of a school, and what unseemly disgrace to a worthy master, I need not mention.

But because such boys as these sometimes are apt to take it as an argument of the master's pusillanimity thus to send for their parents, who generally do not love to hear of their children's faults, the master may take an occasion, where he sees admonitions will not prevail, to watch them more strictly at every turn, and having found them to have committed some gross enormity, to chastise them more smartly than ordinarily, yet so as to show no rigor. And if after that he perceive them willfully to rush into the same acts of lewdness, let him fairly turn them out of his school, and signify the cause to their friends; at whose entreaties he should never take them again, except they will engage to forfeit a sum of money to be bestowed in public books, in case they offend in that nature again.

As for the lesser sort of children, that are apt to reiterate the same fault too often, for which they have sometimes been already corrected, your surest way to reclaim them is, after you have once given them warning, to whip them for a fault, and if that will do no good, to double your strokes the second time; but if a third time they come under the rod and beg heartily for pardon, (as commonly then they will do, fearing lest their punishment should be tripled,) you should not let them pass, except they can procure two of your more orderly boys, or one that is in your favor for his constant well-doing, to give their words for them, and to engage to be whipped for them if ever they do the like. If you see they get sureties to your liking, you may let them escape so; but if they can not, you may adventure to take their own single words; and the care of their sureties, and fear to displease you again, will so work upon them that they will seldom or never do the like afterwards.

Such faults as are viciously enormous are to be duly punished with a rod, according as the obliquity of the will appeareth in them more or less; as for such as are committed for want of understanding, they are to be remedied by due instruction, but those that seem to offend through laziness and careless neglect should be abridged of desired liberty when others have leave to play. The shutting of children up for a while in a dark room, and depriving them of a meal's meat, or the like, (which are used in some tabling schools) as they are not of good report, so they can not be commendably or conveniently used in our greater schools.

But these things I leave to the discretion of every prudent master, who is able to judge of every particular action by its several circumstances, and to take such course as he sees best available for the orderly management of his own school, especially where he is not tied to any rules of government.

IX.—*Of Scholars writing their Exercises fair, and of keeping their books handsome. And of erecting a School Library for the master's recreation therein, at vacant hours.*

Though the teaching of children to write a fair hand doth properly belong to writing-masters, as professors of that art, yet the care of seeing that all they write in paper books and loose papers by way of exercises be neatly done, doth pertain to every schoolmaster; and therefore we shall here touch a little concerning that, and also show what heed is to be taken about keeping their books.

The usual way for scholars learning to write at the country grammar-schools, is to entertain an honest and skillful penman, that he may constantly come and continue with them about a month or six weeks together every year, in which time commonly every one may learn to write legibly. The best season for such a man's coming is about May-day, partly because the days are then pretty long, and partly because it will be requisite for such as are then getting their grammar rudiments, to learn to write before they come to translations. The parents of all other children should be advised to let them take that opportunity to improve their hands, forasmuch as the benefit thereof will far exceed the charge, and it will be a means of better order to have all employed together about a thing so necessary. The master of the school should often have an eye upon them, to see what they do and how they profit, and that they may not slack in their other learning, he may hear them a part at morn, and a lesson at noon before their copies be set or their books can be provided for them, and proportion their weekly exercises accordingly. And that the stock which they then get may be better increased against the next year, the penman should cause them to write a piece, a day or two before he leave them, as fair as they can, with the date above it, and their names subscribed underneath, which the schoolmaster may safely keep by him as a testimony of what they can perform, and take care to see that their writing for the future be not much worse. This pattern or copy I formerly received from that industrious penman, Mr. Roger Evans, who had sometimes taught me to write, being a scholar at Wakefield, and afterwards yearly taught my scholars whilst I was schoolmaster at Roth-erham.

June 1, 1635.

*A man can not any way enter into the canonized rule to come to God's holy will and kingdom, except he reform, and become acquainted with virtuous manners, in most prudent sort that may be, &c.*

ROGER EVANS.

But in London, (which of all places I know in England is best for the full improvement of children in their education, because of the variety of objects which daily present themselves to them, or may easily be seen once a year by walking to Mr. John Tradescant's, or the like houses or gardens where rarities are kept, a book of all which might deserve to be printed, as that ingenuous gentleman hath lately done his by the name of *Museum Tradescantianum, a Collection of Rarities*; could parents at home but half so well look to their behaviour as the masters do to their learning at school,) it is ordinary for scholars at eleven and five o'clock to go to the writing schools, and there to benefit themselves in writing. In that city, therefore, having the opportunity of the neighborhood of my singular loving friend, Mr. James Hodder, (whose copy

books of late printed do sufficiently testify his ability for the profession he hath undertaken, and of whose care and pains I have had abundant trial by his profiting of my scholars for (at least) twelve years together, who had most of them learned of him to write a very fair hand, not to speak of arithmetic or merchants' accounts, which they gained also by his teaching at spare times,) in the Token-house garden in Lothbury, somewhat near the Old Exchange, I so ordered the business with him that all my lower scholars had their little paper books ruled, wherein they wrote their lessons fairly, and then their translations and other exercises in loose papers in his sight, until they were able of themselves to do every thing in a handsome manner. And afterwards it is not to be expressed what pleasure they took in writing and flourishing their exercises all the while they continued with me at the school. This or a better course (perhaps) may be taken at other schools where they have a writing-master constant and ready to attend them every day throughout the year, as I have heard Mr. Farnaby made use of Mr. Taylor, a famous penman, for the teaching of his scholars to write. If at any time a scholar doth not write his exercises in the fairest manner that he is able, his punishment may be to write them over again whilst others play. I have been told of a porter that could neither write nor read, who, if at any time he had seen his son write his exercises at home in a worse hand than he thought he was able to do, would tear them to pieces, and thus at last enforced the scholar upon a very good hand of writing; which rude kind of dealing with a child I would have no parents to imitate, yet I would advise them sometimes to look upon their children's writing at home, and to encourage them to do it in the neatest fashion. For as it will be an ornament to them in their learning and an especial furtherance of their studies or future employments elsewhere, so it will be a great ease to the master in the perusal of what they have written, I, with some others, have been sorry to see some of that reverend and learned Mr. Hooker's sermons come in manuscript to the press, and not to have been possible to be printed, because they were so scribblingly written that nobody could read three words together in them. It is commonly objected to the best scholars in any of the three professions, that they write the worst hands, and therefore I wish that care may be taken to prevent that objection at the school to a future generation.

Now to train up scholars as well in calligraphy as orthography, whilst they write their translations in a paper book, they should often be admonished,

1. To keep a large margin on both sides, and to leave the space of a long letter's length betwixt every line, and of a small letter's breadth betwixt every word, and to regard the proportion of every particular letter, and the difference betwixt *j* and *i*, and *v* and *w*, and above all to beware of blotting or soiling their books.

2. To make every comma, colon, semicolon, period, note of interrogation, parenthesis, and note of admiration, &c., in their due places.

3. To write all their words in an even line with the tops, bellies and bottoms of the letters of an even size, and when they have an occasion to divide any word, to part it by its just syllables, making this mark hyphen (-) at the end of the line. And

4. In Latin to give an adverb or other word its note of difference, and the like, as the grammar will further direct them. But for directions in fair writing, I refer him to that sheet which Mr. Hodder hath caused to be printed before his *Copybook*, which will sufficiently commend its author.

After they have once got a habit of these things, they will more easily observe them in future exercises, the neglect whereof will be harder to remedy afterwards, which I have seen too gross in some men's letters that have come from the universities.

As for books, a care should be first had to procure those of a fair print in good paper, and strongly bound; then the master may more easily see that his scholars keep them all safe and cleanly and free from scribbling or rending, by causing them at a time unexpected to bring all their books before him, and to show their names, together with a note of the price, fairly written in the middle of every one of them, as well as at the beginning or end. And that none may squander his own or pilfer away another's book, or have it carelessly thrown about, or to seek when he should use it, the master may do well to make every scholar once a quarter to deliver him a catalogue of his books, with the day of the month and his name subscribed, which he may lay by him, so as at any time to call him whom he suspecteth to be negligent of his books to a private and particular account of them. That the school may be furnished with all kinds of subsidiary books for the general use of all the scholars, (to be laid up in repositories or presses, as so many little libraries belonging to every form, and to be safely kept under lock and key,) whereof the head boy in each form should take the charge to deliver them out, and see that they be brought in every night without being abused; it would not be amiss that every scholar which is admitted into the school should give 12*d.* (besides what is accustomed to be paid to the master,) and every one at his removal into a new form should give 12*d.* likewise, towards the procuring of common books. The master also may do well to stir up his friends that come to visit the school, or especially such as prevail with him for a playday, to contribute somewhat towards the furtherance of children's learning, as well as to be earnestly importunate for that which may hinder it. But where a school is liberally endowed, it would be good that a considerable stock of money were appointed to be laid out yearly in all kinds of school books, whereby the poorer sort of children may have wherewith to learn, and they and all other scholars wherewith to help themselves in their lessons and exercises.

And might I become a petitioner to the forementioned trustees for the maintenance of students, or any that are both willing and able to promote the growth of good learning, I should desire that towards the better completing of a grammar-school, there might be a little library well furnished with all sorts of grammars, phrase-books, lexicons, dictionaries, orators, poets, histories, herbals, commentators, scholiasts, antiquaries, critics, and some of the succinctest and choicest authors for matters of humanity, divinity, medicine and law; besides those which treat of every art and science, whether liberal or mechanical, that he that is employed as a professed schoolmaster may thoroughly stock himself with all kinds of learning, and be able to inform his scholars in anything that shall be necessary for them to know. For every new master can not at the first be provided with a good study of books for his own private use and his scholars' benefit, neither indeed at any time can he procure them without great trouble and charge, especially if he live at a place far distant from London. I have observed it therefore as a great point of discretion, as well as a matter of charity, in Mr. Calfe, that in founding his grammar-school at Lewisham, he provided a library for the master's use, as well as a house for him to dwell in.

And I took notice of that charitably disposed gentleman and citizen deputy Adams, that when he went about to erect a school in his native county of Shropshire (if I mistake not,) he consulted with Mr. Langley, and brought him along with him to Sion College, to see what books he judged most convenient to furnish a library withal for the schoolmaster's use, and I heard since that he bestowed (at least) 100*l.* in choice books for that purpose. I only mention these two worthy persons (the former whereof is dead, and the latter living in Lawrence Lane, London,) to let others see that in this present age of ours we want not patterns of well doing, if any be desirous to imitate them in their pious actions; and I hope God hath already inclined the hearts of many, as he hath given them store of riches, to endeavor to distribute and do good in this kind, even now whilst they live, in their generation.

I will conclude this chapter with that which I heard lately related of a cheap, easy, profiting, and pious work of charity which one did, in bestowing 40*s.* per annum towards buying English Bibles, which were to be given to those children in the parish that were best able to read in them; and I do verily believe that were an annual sum laid out in procuring a certain number of books for such as should best deserve them in every form at a free school, it would be a greater incitement to provoke children to learn, than any persuasions or enforcements which are commonly yet used.

*X.—Of Exclusion, and Breaking up School, and of Potations.*

I should here add something touching those usual customs which are yet on foot in most places, of scholars excluding or shutting out the master once a year, and capitulating with him about orders to be observed, or the like; but forasmuch as I see they differ very much, and are of late discontinued in many schools. I will only mention how they may be carried on, where they yet remain, without any contest or disturbance, till at last they die of themselves.

1. Therefore there should be no exclusion till after St. Andrew's day, and the master should know of it beforehand, that all things may be ordered handsomely to the credit of the school.

2. That at the time of exclusion, the scholars behave themselves merrily and civilly about the school, without injuring one another or making use of any weapons whereby to endanger themselves or do harm to any thing in the school.

3. That the heads of each form consult with their fellows what things they would desire of the master, and that they bring their suits to the highest scholar in the school, that he may prefer them to the master written fairly in Latin, to receive his approbation or dislike of them, in a mild way of arguing.

4. That the master do not molest or come amongst his scholars all the while they are drawing up their petition about school orders, nor trouble himself concerning them, more than to hear that they keep good rule.

5. That every scholar prepare all his exercises according to his form, to be ready to be hanged out before the school doors or windows (or rather to be hanged over his place within the school,) against the master's coming.

6. That the master, upon notice that all things are prepared for his coming, go quietly to the school, being accompanied by some of the scholars' parents, and after he have before witness subscribed to their petition at the door, to enter the school in a peaceable and loving manner, and receive from his scholars (and

also make to them) a short congratulatory oration, and so dismiss them to play.

By thus doing, a master shall both prevent his scholars behaving themselves against him in such a rude and tumultuous manner as hath formerly been used, and give them and their parents no occasion to grudge at him for seeming to take upon him too abruptly to break old use and custom, which, so long as it becometh an encouragement to their learning, may the better be indulged to young scholars, whilst no evil consequences attend it. It is yet a custom retained in some schools in the country for scholars to make a potation or general feast once a year (and that commonly before Shrovetide;) towards defraying the charge whereof, every one bringeth so much money as his parents think good to allow him, and giveth it to the master to be expended in a dinner orderly-provided for them, or in some kind of banqueting manner, which children are commonly more delighted withal; and for this there needeth no further direction than to say that it concerneth the master at such times to be cheerful and free in the entertainment of his scholars (whether at his own house or elsewhere,) and to see that they keep such order and moderation (especially in drinking) that it may rather be a refreshment and encouragement to them (as it is indeed intended) than any occasion of distemper or debauched behavior amongst them. And after thanks given to God for his mercy towards them in that particular expression of joy and rejoicing one with another, the scholars should all go together into the fields to take a little more liberty of recreation than ordinary, yet with an especial regard had that they catch no cold or otherwise endanger their bodies.

In London and most other places, the usual manner remaineth of breaking up schools (for a time of intermission of studies and visiting of friends) about a week before Christmas, Easter, and Whitsuntide, till the week following those holy days begin, at which time every scholar bringeth something to the master as a token of his own and his parents' gratitude for his care and love towards him. Now that the master may also then testify his forwardness to requite their courtesies and encourage his scholars, he should, every breaking up day,

1. Provide some fitting collation to be imparted and distributed by himself to his scholars, who will thankfully take a small gift as a token of more singular favor at his hands than another's.

2. Invite his scholars' parents, together with such gentlemen and ministers as he is better acquainted withal, as well to take notice of what his scholars in every form are able to do, as to grace him with their company.

3. Let the scholars in each form be furnished with such exercises as belong to them, in loose papers, and have all their translations written fairly in their books, to be ready to show to any one that shall desire to look upon them. The higher forms should entertain the company with some elegant Latin comedy out of *Terence* or *Plautus*, and part of a Greek one out of *Aristophanes*, as also with such orations and declamations, and copies of several sorts of verses, as are most proper for celebrating the solemnity of the time at hand and to give satisfaction to the present meeting. The lesser boys should remain orderly in their forms, to be ready to give answer to any one that shall examine them in what they have learned, or would know what they are able to perform.

This, as it will be an encouragement to the scholars to go on cheerfully at their books, so will it be an endearment of their friends to the master, and a

means to preserve the credit of the school against all virulent aspersions that are apt causelessly and too often to be cast upon it by unworthy and illiterate persons.

It were necessary that such orders as you would have your scholars duly to observe, and the mulct to be undergone for every particular default, were fairly written in a table and hung up in some eminent place in the school, that every one may at any time take notice of them and learn more readily to conform to your discipline. I had thought here to have added another sheet or two concerning school orders and scholars' more decent behavior, but considering the present haste of the press in finishing the work, and fearing lest this little book should swell to too great a bulk, I choose rather to defer them till another opportunity. For whilst I intended only to give a few directions to the less experienced for the better ordering of grammar scholars, I have run over the greater part of the most considerable matters which concern the managing of a school; which a man that is constant to his employment, loving towards children, discreet in his behavior, a well-grounded scholar and a honest Christian, desirous to serve God cheerfully in the calling of a schoolmaster, may undoubtedly perform without any extraordinary toil or disturbance either of mind or body. God in mercy enable me and all that labor in this necessary profession, to persevere in our duty, whatever discouragements may seem to attend it.

XI.—*Of the Method of Teaching which was used in Rotherham School by Mr. Bonner, an experienced schoolmaster there, who was thence chosen to Chesterfield, where he died.*

That none may censure this discovery which I have made, to be an uncouth way of teaching, or contrary to what had been aforetime observed by my predecessors at Rotherham School (which is the same that most schoolmasters yet use,) I have hereto annexed their method, just as I received it from the mouth of some scholars who had been trained up therein all their time at that school, and thence sent to the university. Before I came thither to be master, the custom was,

1. To enter boys at the school one by one, as they were fit for the *Accidents*, and to let them proceed therein severally till so many others came to them as were fit to be ranked with them in a form. These were first put to read the *Accidents*, and afterwards made to commit it to memory; when they had done which, they were exercised in construing and parsing the examples in the English rules, and this was called the first form: of which it was required to say four lessons a day, but of the other forms, a part and a lesson in the forenoon, and a lesson only in the afternoon.

2. The second form was, 1. To repeat the *Accidents* for parts. 2. To say forenoon lessons in *Propria quæ maribus, Quæ genus, and As in præcenti*, which they repeated *memoriter*, construed and parsed. 3. To say an afternoon lesson in *Sententia Pueriles*, which they repeated by heart, and construed and parsed.

4. They repeated their tasks every Friday *memoriter*, and parsed their sentences out of English.

3. The third form was enjoined first to repeat two parts together every morning, one out of the *Accidents* and the other out of that forementioned part of the grammar, and together with their parts, each one was made to form one person of a verb active in any of the four conjugations. 2. Their forenoon les-

sons were in *Syntaxis*, which they used to say *memoriter*, then to construe it, and parse only the words which contain the force of the rule. 3. Their forenoon lessons were two days in *Aesop's Fables*, and other two days in *Cato*, both which they construed and parsed, and said *Cato memoriter*. 4. These lessons they translated into English and repeated all on Fridays, construing out of their translations into Latin.

4. The fourth form having ended *Syntaxis*, first repeated it and *Propria quae maribus, &c.*, together for parts, and formed a person of a verb passive, as they did the active before. 2. For lessons they proceeded to the by-rules, and so to *Figura* and *Prosodia*. 3. For afternoon lessons they read *Terence* two days and *Manilius* two days, which they translated into English and repeated on Fridays, as before.

5. The fifth form said one part in the *Latin* and another in the *Greek Grammar* together. 2. Their forenoon lessons were in *Butler's Rhetoric*, which they said *memoriter* and then construed, and applied the example to the definition. 3. Their afternoon lessons were two days in *Ovid's Metamorphosis* and two days in *Tully's Offices*, both which they translated into English. 4. They learned to scan and prove verses in *Flores Poetarum*, and repeated their week's work on Fridays, as before.

6. The sixth form continued their parts in the *Greek Grammar*, and formed a verb active at every part. 2. They read the *Greek Testament* for forenoon lessons, beginning with *St. John's Gospel*. 3. Their afternoon lessons were two days in *Virgil* and two days in *Tully's Orations*. They construed the *Greek Testament* into *Latin* and the rest into English.

7. The seventh form went on with the *Greek Grammar*, forming at every part a verb passive, or medium. 2. They had their forenoon lessons in *Isocrates*, which they translated into *Latin*. 3. Their afternoon lessons were two days in *Horace* and two days in *Seneca's Tragedies*, both which they translated into English.

8. The eighth form still continued their parts in the *Greek Grammar*. 2. They said forenoon lessons in *Hesiod*, which they translated into *Latin*, and afternoon lessons in *Juvenal* and afterwards in *Persius*, which they translated into English.

9. The ninth and highest form said morning parts in the *Hebrew Grammar*, forenoon lessons in *Homer*, and afternoon lessons in some comical author.

Thus when I came to Rotherham, I found two or three sorts of boys in the *Accidents*, and nine or ten several forms, whereof some had but two or three scholars in it, and one of these forms also was not very far from that which was below it. So that I, being to teach all myself alone, was necessitated to reduce them to a lesser number, and to provide such helps for the weaker boys as might enable them to go on with the stronger. Besides, observing how barren the scholars were of proper words and good phrases, with which their present authors did not sufficiently furnish them for speaking or writing *Latin*, I was forced to make use of such books amongst the rest as were purposely made for that end, and having at last brought the whole school into a good method and order, so that the scholars learned with profit, and I taught them with much ease and delight, I was persuaded to write over what I had done, that I might leave it as a pattern for him that succeeded me; and this was the groundwork of my discovery.

The manner of giving lectures before I came was, 1. For the two highest boys in the eighth form to give lectures to all the lower forms, each his week by turns. 2. The highest scholar in the school gave lectures to the second form. 3. Those in the highest form were commonly left to shift for themselves.

The manner of the master's hearing lessons was this: 1. The highest boy in the form at their coming to say, construed his lesson two or three times over, till he was perfect in it, that his fellows might all learn by him to construe as well as he; then every one construed according to the order in which he stood. 2. They parsed their lesson in that order that they had construed it in. 3. They translated every day after the lesson, and showed it altogether fairly written on Fridays.

Their exercises were these: 1. The four lowest forms translated at vacant times out of some English book. 2. The higher forms, having a subject given them every Saturday, made themes and verses upon it against that day seven night.

The manner of collecting phrases was that every Friday, in the afternoon, the boys in the highest form collected phrases for the lowest forms out of their several authors, which they wrote and committed to memory against Saturday morning.

The set times for disputations were Fridays and Saturdays at noon, and the manner thus: one boy answered his day by course, and all his fellows posed him out of any author which he had read before.

A part of Thursday in the afternoon was spent in getting the *Church Catechism* and the *Six Principles of Christianity* made by Mr. Perkins.

Finding this method (which is used also in most grammar schools) to concur in the main grounds with that which I had been taught at Wakefield, but not to be so plain and easy as that was to children of meaner capacities, I began to seek (not so much to alter any thing, as) to supply what I saw defective in it, having these and such like considerations often in my mind,

1. Though every man liketh his own method best, yet none ought so far to be conceited of his own as not to search after a better for the profiting of his scholars.

2. Though one constant method must diligently be observed, yet trial may be made of another at fit times, so it be done without any distraction to the master or hindrance to his scholars.

3. A new course of teaching must not be brought in suddenly upon scholars that have been long trained in a worse, but by degrees.

4. Some modern schoolmasters seem to have gained a far more easy and nearer way of teaching than many of the more ancient seemed to have.

5. Mr. Brinsley seemeth to have made a discovery of a more perfect method than was in his time used or is yet generally received. Mr. Farnaby, Mr. John Clerke, and some others, have facilitated the way further; but Mr. John Comeius hath lately contrived a shorter course of teaching, which many of late endeavor to follow; and others have more contemplatively written what they have thought of learning the Latin tongue in the easiest manner.

6. That for me it would not be amiss, by imitating these and others of whose learning and dexterity in teaching I had got some little experience, and observing the several tempers and capacities of those I taught, to endeavor to find out and contrive such helps as might make the most generally received method

of teaching by grammar, authors and exercises, more brief in itself and more easy and delightful to the teacher and scholar. And for what I have done in this kind, these arguments were especial inducements. That,

1. It is not only possible but necessary to make children understand their tasks, from their very first entrance into learning, seeing they must every one bear his own burden, and not rely upon their fellows altogether in what they do.
2. It is possible and meet for every teacher so to ground his scholars that a change of masters may not much hinder their progress in learning.
3. Things most familiar and obvious to the senses are first to be learned, and such as may be an easy step towards those which are next to be attained.
4. The most vocabulas and phrases of ordinary discourse may and ought to be taught together with the *Latin Grammar*, and the lowest sort of school authors.
5. Boys ought to know the meaning and how to make use of each rule as they learn, yet so as they be not forced upon understanding it.
6. The most useful books ought to be read, and may be taught after one manner in every grammar-school.
7. Children must be furnished with store of matter, and able to write a good style, and showed how to imitate their authors for making exercises, before they be put to use their own invention.
8. It is tyranny in the master to beat a scholar for not doing that which he knoweth not how to go about; so that he must first know him to be well able, and then he may more justly punish his neglect.
9. Many young schoolmasters are more puzzled about framing to themselves a good method than toiled in the exercise of teaching school.
10. No man ever had such an acute and direct method, but another able scholar might observe and follow it.
11. Many masters that are excellent in perfecting scholars have not the patience to ground them, and many that have the skill to ground a scholar well in his rudiments are not of ability to bring him on to perfection in grammatical exercises.
12. In many schools, one master alone beareth the whole burden of teaching, without any help of an usher.
13. Every one that teacheth a grammar-school is not able to make a right choice, nor knoweth he the true use of our best classical authors.
14. It is a prime part of a schoolmaster to instruct his scholars well in the principles of the Christian religion, and to make them acquainted with the Holy Scriptures.
15. It is an utter undoing to many scholars to be sent ungrounded to the universities; and parents are generally unwilling to have their children tarry long at the school, and therefore it is good for masters to make use of the shortest and surest way of teaching.
16. It is very necessary and hath been ever wished that some of our most famous and best schoolmasters would for the benefit of others set themselves to work to find out and publish the exactest method of teaching, which might be generally received till a better were known; for by that means they should do much good to the Church and Commonwealth, and somewhat herein advantage themselves, seeing every parent will be willing to have his son taught by one whom he knoweth to be constantly diligent in a good way of teaching.

And the hopes that I conceived hereby to provoke my betters hath especially encouraged me (at last) to yield to my friends' importunity, in setting down this *Method of Teaching*, and writing down also this form of *School Government*, which I heartily commend to God's heavenly blessing and the candid censure of the more judicious, hoping that as I intend chiefly the general good, so none will require me with malicious obstrectation, which if any shall do, I charitably pray for them beforehand, that God would for Christ's sake forgive them, and grant that I may not heed what they write or say concerning me or my labors, so as to be discouraged in my honest endeavors for the public service.

*Δέδει τι τύχοντι θεῶ, καὶ τι γῆς εἰρήνη, τι διθράντως εἰδεσία.* Λακ., β. 18.

## SCIENTIFIC INSTRUCTION IN ENGLAND.

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### ABRAHAM COWLEY.

ABRAHAM COWLEY, whose plan of a "Philosophical College," or "*Proposition for the Advancement of Experimental Philosophy*," was preferred by Dr. Johnson, to that of Milton's Academy, was born in London, in 1618, and died in 1667. His early training was obtained as King's Scholar at Westminster School, whence he proceeded to Trinity College, Cambridge, in 1636. In 1643, he left the university, and for many years resided on the continent in some official relation to the Queen, and Lord Falkland. Soon after his return to England in 1656, he published a volume in which his plan of a College was made public. Among the noticeable features of his college are professors resident of "all sorts of Natural, Experimental Philosophy;" and among the studies, are enumerated "Agriculture, Architecture, Art, Military, Navigation, Gardening; the Mysteries of all Trades, and improvement of them, and briefly all things contained in the Catalogue of Natural Histories annexed to my Lord Bacon's *Organon*." The instruction was to be free—"that none, though never so rich, shall pay any thing for their teaching." The list of authors to be read closely resembles that of Milton, and such as serve "an apprenticeship in Natural Philosophy," "upon Festivals and Play-times, they should exercise themselves in the fields by Riding, Leaping, Fencing, Mustering and Training, after the manner of soldiers, &c." Four of the Professors are to be always traveling beyond seas, leaving a deputy to supply their duties, and one of the four "professors itinerate" is to be assigned "to each of the four great divisions of the globe, to reside there three years, and to give a constant account of all things that belong to the Learning, and especially the Natural Experimental Philosophy of those parts." They must take solemn oath to communicate what they "fully believe to be true, and to confess and recant it as soon as they find themselves in an error." The institution was to be furnished with suitable buildings and grounds—"Towers for the Observation of the Celestial Bodies"—"Laboratories for Chemical Operations"—"Gardens for all manner of experiments concerning Plants—and for the convenient receptacles of all sorts of creatures"—indeed, all the equipments which the great universities of Europe and the great cities of London and Paris now furnish for the illustration and advancement of Natural History, and Practical Science.

In his *Essay on "Agriculture,"* Cowley expresses "the wish (but can not in these times much hope to see it,) that one college in each university were erected and appropriated to this study" with "four professors" to teach the four parts; 1. Aration; 2. Pasturage; 3. Gardens, Orchards, Vineyards and Woods; 4. Rural Economy, Bees, Swine, Poultry, Fish, and other Sports of the Field. Their business should not be "to read lectures, but to instruct their pupils in the whole method and course of this study," and "should be chosen for solid and experimental knowledge of the things they teach—so industrious and public spirited, as I conceive Mr. Hartlib to be, if the gentleman be yet alive."



## V. PLAN OF A PHILOSOPHICAL COLLEGE.

A PROPOSITION FOR THE ADVANCEMENT OF EXPERIMENTAL PHILOSOPHY—1661.

BY ABRAHAM COWLEY.

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### THE COLLEGE.

THAT the Philosophical College be situated within one, two, or (at farthest) three miles of London, and if it be possible to find that convenience, upon the side of the river, or very near it.

That the revenue of this College amount to four thousand a year.

That the company received into it be as follows:—

1. Twenty philosophers or professors.
2. Sixteen young scholars, servants to the professors.
3. A chaplain.
4. A bailee for the revenue.
5. A manciple or purveyor for the provisions of the house.
6. Two gardeners.
7. A master cook.
8. An under cook.
9. A butler.
10. An under butler.
11. A surgeon.
12. Two lungs, or chemical servants.
13. A library-keeper, who is likewise to be apothecary, druggist, and keeper of instruments, engines, &c.
14. An officer to feed and take care of all beasts, fowl, &c., kept by the College.
15. A groom of the stable.
16. A messenger to send up and down for all uses of the College.
17. Four old women to tend the chambers, keep the house clean, and such like services.

That the annual allowance for this company be as follows:—

1. To every professor, and to the chaplain, one hundred and twenty pounds.
2. To the sixteen scholars, twenty pounds a piece, ten pounds for their diet, and ten pounds for their entertainment.
3. To the bailee, thirty pounds, besides allowance for his journeys.
4. To the purveyor or manciple, thirty pounds.
5. To each of the gardeners, twenty pounds.
6. To the master cook, twenty pounds.
7. To the under cook, four pounds.
8. To the butler, ten pounds.
9. To the under butler, four pounds.
10. To the surgeon, thirty pounds.
11. To the library-keeper, thirty pounds.
12. To each of the lungs, twelve pounds.
13. To the keeper of the beasts, six pounds.
14. To the groom, five pounds.
15. To the messenger, twelve pounds.
16. To the four necessary women, ten pounds.

For the manciple's table, at which all the servants of the house are to eat, except the scholars, one hundred and sixty pounds. For three horses for the service of the College, thirty pounds.

All which amounts to three thousand two hundred and eighty-five pounds. So that there remains for keeping of the house and gardens, and operatories, and instruments and animals, and experiments of all sorts, and all other expenses, seven hundred and fifteen pounds. Which were a very inconsiderable sum for the great uses to which it is designed, but that I conceive the industry of the College will in a short time so enrich itself as to get a far better stock for the advance and enlargement of the work when it is once begun; neither is the continuance of particular men's liberality to be despised of,

when it shall be encouraged by the sight of that public benefit which will accrue to all mankind, and chiefly to our nation, by this foundation. Something likewise will arise from leases and other casualties; that nothing of which may be diverted to the private gain of the professors, or any other use besides that of the search of nature, and by it the general good of the world, and that care may be taken for the certain performance of all things ordained by the institution, as likewise for the protection and encouragement of the company, it is proposed,

That some person of eminent quality, a lover of solid learning, and no stranger in it, be chosen Chancellor or President of the College, and that eight governors more, men qualified in the like manner, be joined with him, two of which shall yearly be appointed Visitors of the College, and receive an exact account of all expenses even to the smallest, and of the true estate of their public treasure, under the hands and oaths of the professors resident.

That the choice of the professors in any vacancy belong to the Chancellor and the Governors, but that the professors (who are likeliest to know what men of the nation are most proper for the duties of their society) direct their choice by recommending two or three persons to them at every election. And that if any learned person within his majesty's dominions discover or eminently improve any useful kind of knowledge, he may upon that ground for his reward and the encouragement of others, be preferred, if he pretend to the place, before anybody else.

That the Governors have power to turn out any professor who shall be proved to be either scandalous or unprofitable to the Society.

That the College be built after this, or some such manner: That it consist of three fair quadrangular courts, and three large grounds, inclosed with good walls behind them. That the first court be built with a fair cloister, and the professors' lodgings or rather little houses, four on each side, at some distance from one another, and with little gardens behind them, just after the manner of the *Charfreuz* beyond sea. That the inside of the cloister be lined with a gravel walk, and that walk with a row of trees, and that in the middle there be a parterre of flowers, and a fountain.

That the second quadrangle, just behind the first, be so contrived as to contain these parts: 1. A chapel. 2. A hall with two long tables on each side for the scholars and officers of the house to eat at, and with a pulpit and forms at the end for the public lectures. 3. A large and pleasant dining-room within the hall for the professors to eat in, and to hold their assemblies and conferences. 4. A public school-house. 5. A library. 6. A gallery to walk in, adorned with the pictures or statues of all the inventors of any thing useful to human life, as printing, guns, America, &c., and of late in anatomy the circulation of the blood, the milky veins, and such like discoveries in any art, with short eulogies under the portraiture; as likewise the figures of all sorts of creatures, and the stuffed skins of as many strange animals as can be gotten. 7. An anatomy chamber adorned with skeletons and anatomical pictures, and prepared with all conveniences for dissection. 8. A chamber for all manner of drugs and apothecaries' materials. 9. A mathematical chamber furnished with all sorts of mathematical instruments, being an appendix to the library. 10. Lodgings for the chaplain, surgeon, library-keeper and purveyor, near the chapel, anatomy chamber, library, and hall.

That the third court be on one side of these, very large, but meanly built, being designed only for use and not for beauty too, as the others. That it contain the kitchen, butteries, brewhouse, bakehouse, dairy, lardry, stables, &c., and especially great laboratories for chemical operations, and lodgings for the under servants.

That behind the second court be placed the garden, containing all sorts of plants that our soil will bear, and at the end a little house of pleasure, a lodge for the gardener, and a grove of trees cut into walks.

That the second inclosed ground be a garden, destined only to the trial of all manner of experiments concerning plants, as their melioration, acceleration, retardation, conservation, composition, transmutation, coloration, or whatsoever else can be produced by art, either for use or curiosity, with a lodge in it for the gardener.

That the third ground be employed in convenient receptacles for all sorts of creatures which the professors shall judge necessary for their more exact search into the nature of animals, and the improvement of their uses to us.

That there be likewise built in some place of the College where it may serve most for ornament of the whole, a very high tower for observation of celestial bodies, adorned with all sorts of dials, and such like curiosities; and that there be very deep vaults, made under ground, for experiments most proper to such places, which will be undoubtedly very many.

Much might be added, but truly I am afraid this is too much already for the charity or generosity of this age to extend to; and we do not design this after the model of Solomon's house in my Lord Bacon, (which is a project for experiments that can never be experimented,) but propose it within such bounds of expense as have often been exceeded by the buildings of private citizens.

#### PROFESSORS, SCHOLARS, CHAPLAIN, AND OTHER OFFICERS.

That of the twenty professors, four be always travelling beyond seas, and sixteen always resident, unless by permission upon extraordinary occasions, and every one so absent, leaving a deputy behind him to supply his duties.

That the four professors itinerate be assigned to the four parts of the world—Europe, Asia, Africa, and America—there to reside three years at least, and to give a constant account of all things that belong to the learning, and especially, natural experimental philosophy of those parts.

That the expense of all dispatches, and all books, simples, animals, stones, metals, minerals, &c., and all curiosities whatsoever, natural or artificial, sent by them to the college, shall be defrayed out of the treasury, and an additional allowance (above the 120*l.*) made to them as soon as the college revenue shall be improved.

That at their going abroad they shall take a solemn oath never to write anything to the College, but what, after very diligent examination, they shall fully believe to be true, and to confess and recant it as soon as they find themselves in an error.

That the sixteen professors resident shall be bound to study and teach all sorts of natural, experimental philosophy, to consist of the mathematics, mechanics, medicine, anatomy, chemistry, the history of animals, plants, minerals, elements, &c., agriculture, architecture, art military, navigation, gardening; the mysteries of all trades, and improvement of them; the facture of all merchan-

dises, all natural magic, or divination; and briefly, all things contained in the catalogue of natural histories annexed to my Lord Bacon's *Organon*.

That once a day from Easter till Michaelmas, and twice a week from Michaelmas to Easter, in the hours in the afternoon most convenient for auditors from London according to the time of the year, there shall be a lecture read in the hall, upon such parts of natural experimental philosophy as the professors shall agree on among themselves, and as each of them shall be able to perform usefully and honorably.

That two of the professors by daily, weekly or monthly turns shall teach the public schools according to the rules hereafter prescribed.

That all the professors shall be equal in all respects (except precedency, choice of lodging, and such like privileges, which shall belong to seniority in the College,) and that all shall be masters and treasurers by annual turns, which two officers for the time being, shall take place of all the rest, and shall be *Arbitri duarum Mensarum*.

That the master shall command all the officers of the College, appoint assemblies or conferences upon occasion, and preside in them with a double voice, and in his absence the treasurer, whose business is to receive and disburse all moneys by the master's order in writing, (if it be an extraordinary,) after consent of the other professors.

That all the professors shall sup together in the parlor within the hall every night, and shall dine there twice a week (to wit Sundays and Thursdays,) at two round tables for the convenience of discourse, which shall be for the most part of such matters as may improve their studies and professions, and to keep them from falling into loose or unprofitable talk, shall be the duty of the two *Arbitri Mensarum*, who may likewise command any of the servant-scholars to read them what they shall think fit, whilst they are at table; that it shall belong likewise to the said *Arbitri Mensarum* only, to invite strangers, which they shall rarely do, unless they be men of learning or great parts, and shall not invite above two at a time to one table, nothing being more vain and unfruitful than numerous meetings of acquaintance.

That the professors resident shall allow the College twenty pounds a year for their diet, whether they continue there all the time or not.

That they shall have once a week an assembly or conference concerning the affairs of the College, and the progress of their experimental philosophy.

That if any one find out any thing which he conceives to be of consequence, he shall communicate it to the assembly to be examined, experimented, approved, or rejected.

That if any one be author of an invention that may bring in profit, the third part of it shall belong to the inventor, and the two other to the Society; and besides, if the thing be very considerable, his statue or picture, with an eulogy under it, shall be placed in the gallery, and made a denizen of that corporation of famous men.

That all the professors shall be always assigned to some particular inquisition (besides the ordinary course of their studies,) of which they shall give an account to the assembly, so that by this means there may be every day some operation or other made in all the arts, as chemistry, anatomy, mechanics, and the like, and that the College shall furnish for the charge of the operation.

That there shall be kept a register under lock and key, and not to be seen

but by the professors, of all the experiments that succeed, signed by the persons who made the trial.

That the popular and received errors in experimental philosophy (with which, like weeds in a neglected garden, it is now almost all overgrown,) shall be evinced by trial, and taken notice of in the public lectures, that they may no longer abuse the credulous, and beget new ones by consequence or similitude.

That every third year (after the full settlement of the foundation,) the College shall give an account in print, in proper and ancient Latin, of the fruits of their triennial industry.

That every professor resident shall have his scholar to wait upon him in his chamber, and at table, whom he shall be obliged to breed up in natural philosophy, and render an account of his progress to the assembly, from whose election he received him, and therefore is responsible to it, both for the care of his education, and the just and civil usage of him.

That the scholar shall understand Latin very well, and be moderately initiated in the Greek, before he be capable of being chosen into the service, and that he shall not remain in it above seven years.

That his lodging shall be with the professor whom he serves.

That no professor shall be a married man, or a divine, or lawyer in practice, only physic he may be allowed to prescribe, because the study of that art is a great part of the duty of his place, and the duty of that is so great that it will not suffer him to lose much time in mercenary practice.

That the professors shall in the College wear the habit of ordinary masters of art in the universities, or of doctors, if any of them be so.

That they shall all keep an inviolable and exemplary friendship with one another, and that the assembly shall lay a considerable pecuniary mulct upon any one who shall be proved to have entered so far into a quarrel as to give uncivil language to his brother professor; and that the perseverance in any enmity shall be punished by the Governors with expulsion.

That the chaplain shall eat at the master's table, (paying his twenty pounds a year as the others do,) and that he shall read prayers once a day at least, a little before supper-time; that he shall preach in the chapel every Sunday morning, and catechise in the afternoon the scholars and the school-boy; that he shall every month administer the Holy Sacrament; that he shall not trouble himself and his auditors with the controversies of divinity, but only teach God in his just commandments, and in his wonderful works.

#### THE SCHOOL.

That the school may be built so as to contain about two hundred boys.

That it be divided into four classes, not as others are ordinarily into six or seven, because we suppose that the children sent hither to be initiated in things as well as words, ought to have past the two or three first, and to have attained the age of about thirteen years, being already well advanced in the Latin grammar and some authors.

That none, though never so rich, shall pay any thing for their teaching; and that if any professor shall be convicted to have taken any money in consideration of his pains at the school, he shall be expelled with ignominy by the Governors; but if any persons of great estate and quality, finding their sons much better proficients in learning here than boys of the same age commonly

are at other schools, shall not think fit to receive an obligation of so near concernment without returning some marks of acknowledgment, they may, if they please, (for nothing is to be demanded,) bestow some little rarity or curiosity upon the Society in recompense of their trouble.

And because it is deplorable to consider the loss which children make of their time at most schools, employing or rather casting away six or seven years in the learning of words only, and that too very imperfectly:

That a method be here established for the infusing knowledge and language at the same time into them; and that this may be their apprenticeship in natural philosophy. This we conceive may be done, by breeding them in authors or pieces of authors, who treat of some parts of nature, and who may be understood with as much ease and pleasure as those which are commonly taught; such are in Latin, *Varro, Cato, Columella, Pliny*, part of *Celsus*, and of *Seneca, Cicero de Divinatione, de Natura Deorum*, and several scattered pieces, *Virgil's Georgics, Grotius, Nemesianus, Manilius*; and because the truth is, we want good poets (I mean we have but few) who have purposely treated of solid and learned, that is, natural matters, (the most part indulging to the weakness of the world, and feeding it either with the follies of love, or with the fables of gods and heroes,) we conceive that one book ought to be compiled of all the scattered little parcels among the ancient poets that might serve for the advancement of natural sciences, and which would make no small or unusual or unpleasant volume. To this we would have added the *Morals* and *Rhetorics* of *Cicero*, and the *Institutions* of *Quintilian*; and for the comedians, from whom almost all that necessary part of common discourse and all the most intimate proprieties of the language are drawn, we conceive the boys made be made masters of them, as a part of their recreation and not of their task, if once a month, or at least once in two, they act one of *Terence's comedies*, and afterwards (the most advanced) some of *Plautus'*; and this is for many reasons one of the best exercises they can be enjoined, and most innocent pleasures they can be allowed. As for the Greek authors, they may study *Nicander, Oppianus*, (whom Scaliger does not doubt to prefer above *Homer* himself, and place next to his adored *Virgil*.) *Aristotle's History of Animals*, and other parts; *Theophrastus* and *Dioscorides*, of Plants, and a collection made out of several, both poets and other Grecian writers. For morals and rhetoric, *Aristotle* may suffice, or *Hermogenes* and *Longinus* be added for the latter. With the history of animals they should be showed anatomy as a divertisement, and made to know the figures and natures of those creatures which are not common among us, disabusing them at the same time of those errors which are universally admitted concerning many. The same method should be used to make them acquainted with all plants; and to this must be added a little of the ancient and modern geography, the understanding of the globes, and the principles of geometry and astronomy. They should likewise use to declaim in Latin and English, as the Romans did in Greek and Latin; and in all this travel be rather led on by familiarity, encouragement and emulation, than driven by severity, punishment and terror. Upon festivals and playtimes they should exercise themselves in the fields by riding, leaping, fencing, mustering and training after the manner of soldiers, &c. And to prevent all dangers and all disorder, there should always be two of the scholars with them to be as witnesses and directors of their actions. In foul weather it would not be amiss for them to learn to dance, that is, to learn just so much (for all

beyond is superfluous, if not worse,) as may give them a graceful comportment of their bodies.

Upon Sundays, and all days of devotion, they are to be a part of the chaplain's province.

That for all these ends the College so order it, as that there may be some convenient and pleasant houses thereabouts, kept by religious, discreet, and careful persons, for the lodging and boarding of young scholars, that they have a constant eye over them to see that they be bred up there piously, cleanly, and plentifully, according to the proportion of their parents' expenses.

And that the College, when it shall please God either by their own industry and success, or by the benevolence of patrons, to enrich them so far as that it may come to their turn and duty to be charitable to others, shall at their own charges erect and maintain some house or houses for the entertainment of such poor men's sons whose good natural parts may promise either use or ornament to the commonwealth, during the time of their abode at school, and shall take care that it shall be done with the same conveniences as are enjoyed even by rich men's children, (though they maintain the fewer for that cause,) there being nothing eminent and illustrious to be expected from a low, sordid, and hospital-like education.

#### CONCLUSION.

If I be not much abused by a natural fondness to my own conceptions, (that *σοφία* of the Greeks, which no other language has a proper word for,) there was never any project thought upon, which deserves to meet with so few adversaries as this; for who can without impudent folly oppose the establishment of twenty well selected persons in such a condition of life, that their whole business and sole profession may be to study the improvement and advantage of all other professions, from that of the highest general even to the lowest artisan? Who shall be obliged to employ their whole time, wit, learning, and industry, to these four, the most useful that can be imagined, and to no other ends: First, to weigh, examine, and prove all things of nature delivered to us by former ages, to detect, explode, and strike a censure through all false moneys with which the world has been paid and cheated so long, and (as I may say) to set the mark of the College upon all true coins, that they may pass hereafter without any farther trial. Secondly, to recover the lost inventions, and, as it were, drowned lands of the ancients. Thirdly, to improve all arts which we now have; and lastly, to discover others, which we yet have not. And who shall besides all this (as a benefit by-the-by) give the best education in the world (purely gratis) to as many men's children as shall think fit to make use of the obligation. Neither does it at all check or interfere with any parties in state or religion, but is indifferently to be embraced by all differences in opinion, and can hardly be conceived capable (as many good institutions have done) even of degeneration into any thing harmful. So that, all things considered, I will suppose this proposition will encounter with no enemies; the only question is, whether it will find friends enough to carry it on from discourse and design to reality and effect; the necessary expenses of the beginning (for it will maintain itself well enough afterwards) being so great (though I have set them as low as is possible in order to so vast a work) that it may seem hopeless to raise such a sum out of those few dead relics of human charity and public generosity which are yet remaining in the world.

## EXTRACTS FROM AN ESSAY ON AGRICULTURE, BY A. COWLEY.

There is no other sort of life that affords so many branches of praise to a panegyrist—the utility of it to man's self: the usefulness or rather necessity of it to all the rest of mankind: the innocence, the pleasure, the antiquity, the dignity. The utility (I mean plainly the lucre of it) is not so great now in our nation as arises from merchandise and the trading of the city, from whence many of the best estates and chief honors of the kingdom are derived: we have no men now fetched from the plow to be made lords, as they were in Rome to be made consuls and dictators, the reason of which I conceive to be from an evil custom, now grown as strong among us as if it were a law, which is, that no men put their children to be bred up apprentices in agriculture, as in other trades, but such who are so poor, that when they come to be men, they have not wherewithal to set up in it, and so can only farm some small parcel of ground, the rent of which devours all but the bare subsistence of the tenant: whilst they who are proprietors of the land, are either too proud, or for want of that kind of education, too ignorant to improve their estates, though the means of doing it be as easy and certain in this as in any other track of commerce. If there were always two or three thousand youths for seven or eight years bound to this profession, that they might learn the whole art of it, and afterwards be enabled to be masters in it, by a moderate stock, I can not doubt but that we should see as many aldermen's estates made in the country, as now we do out of all kind of merchandising in the city. There are as many ways to be rich, and which is better, there is no possibility to be poor, without such negligence as can neither have excuse nor pity; for a little ground will without question feed a little family, and the superfluities of life (which are now in some cases by custom made almost necessary) must be supplied out of the superabundance of art and industry, or contemned by as great a degree of philosophy.

As for the necessity of this art, it is evident enough, since this can live without all others, and no one other without this. This is like speech, without which the society of men can not be preserved: the others like figures and tropes of speech which serve only to adorn it. Many nations have lived, and some do still, without any art but this; not so elegantly, I confess, but still they live, and almost all the other arts which are here practiced, are beholding to this for most of their materials.

The innocence of this life is the next thing for which I commend it, and if husbandmen preserve not that, they are much to blame, for no men are so free from the temptations of iniquity. They live by what they can get by industry from the earth, and others by what they can catch by craft from men. They live upon an estate given them by their mother, and others upon an estate cheated from their brethren. They live like sheep and kine by the allowances of nature, and others like wolves and foxes by the acquisitions of rapine. And, I hope, I may affirm (without any offense to the great) that sheep and kine are very useful, and that wolves and foxes are pernicious creatures. They are, without dispute, of all men the most quiet and least apt to be inflamed to the disturbance of the commonwealth: their manner of life inclines them, and interest binds them to love peace. In our late mad and miserable civil wars, all other trades, even to the meanest, set forth whole troops, and raised up some great commanders, who became famous and mighty for the mischiefs they

had done; but I do not remember the name of any one husbandman who had so considerable a share in the twenty years' ruin of his country, as to deserve the curses of his countrymen; and if great delights be joined with so much innocence, I think it is ill done of men not to take them here where they are so tame and ready at hand, rather than hunt for them in courts and cities where they are so wild, and the chase so troublesome and dangerous.

We are here among the vast and noble scenes of nature; we are there among the pitiful shifts of policy: we walk here in the light and open ways of the divine bounty; we grope there in the dark and confused labyrinths of human malice: our senses are here feasted with the clear and genuine taste of their objects; which are all sophisticated there, and for the most part overwhelmed with their contraries. Here pleasure looks (methinks) like a beautiful, constant, and modest wife; it is there an impudent, fickle, and painted harlot. Here is harmless and cheap plenty, there guilty and expensive luxury.

I shall only instance in one delight more, the most natural and best natured of all others, a perpetual companion of the husbandman, and that is the satisfaction of looking round about him, and seeing nothing but the effects and improvements of his own art and diligence, to be always gathering of some fruits of it, and at the same time to behold others ripening, and others budding: to see all his fields and gardens covered with the beauteous creatures of his own industry; and to see, like God, that all his works are good.

*Hinc atque hinc glomerantur Orcades; ipsi  
Agricola tacitum perturbant gaudia pectus.*

On his heart-string a secret joy does strike.

The antiquity of his art is certainly not to be contested by any other. The three first men in the world were a gardener, a ploughman, and a grazier; and if any man object that the second of these was a murderer, I desire he would consider, that as soon as he was so, he quitted our profession and turned builder. It is for this reason, I suppose, that *Ecclesiasticus* forbids us to hate husbandry; because (says he) *the Most High has created it*. We were all born to this art, and taught by nature to nourish our bodies by the same earth out of which they were made, and to which they must return, and pay at last for their sustenance.

Behold the original and primitive nobility of all those great persons, who are too proud now, not only to till the ground, but almost to tread upon it. We may talk what we please of lilies, and lions rampant, and spread eagles in fields *d'or*, or *d'argent*; but if heraldry were guided by reason, a plough in a field arable would be the most noble and ancient arms.

All these considerations make me fall into the wonder and complaint of *Colu-mella*. How it should come to pass that all arts or sciences, (for the dispute, which is an art, and which a science, does not belong to the curiosity of us husbandmen,) metaphysics, physic, morality, mathematics, logic, rhetoric, &c., which are all, I grant, good and useful faculties, (except only metaphysics, which I do not know whether it be any thing or no,) but even vaulting, fencing, dancing, attiring, cookery, carving, and such like vanities, should all have public schools and masters, and yet that we should never see or hear of any man who took upon him the profession of teaching this so pleasant, so virtuous, so profitable, so honorable, so necessary, art.

A man would think, when he's in serious humor, that it were but a vain,

irrational and ridiculous thing, for a great company of men and women to run up and down in a room together, in a hundred several postures and figures to no purpose, and with no design; and therefore dancing was invented first, and practiced anciently in the ceremonies of the heathen religion, which consisted all in mummery and madness; the latter being the chief glory of the worship, and accounted divine inspiration. This, I say, a severe man would think, though I dare not determine so far against so customary a part now of good breeding. And yet, who is there among our gentry, that does not entertain a dancing-master for his children as soon as they are able to walk? But did ever any father provide a tutor for his son, to instruct him betimes in the nature and improvements of that land which he intended to leave him? That is at least a superfluity, and this a defect in our manner of education; and therefore I could wish (but can not in these times much hope to see it) that one College in each University were erected and appropriated to this study, as well as there are to medicine and the civil law. There would be no need of making a body of scholars and fellows, with certain endowments, as in other colleges; it would suffice, if after the manner of halls in Oxford, there were only four professors constituted, (for it would be too much work for only one master, or principal, as they call him there) to teach these four parts of it. First, aration, and all things relating to it. Secondly, pasturage. Thirdly, gardens, orchards, vineyards, and woods. Fourthly, all parts of rural economy, which would contain the government of bees, swine, poultry, decoys, ponds, &c., and all that which *Varro* calls *Villaticas Pastiones*, together with the sports of the field (which ought to be looked upon not only as pleasures, but as parts of housekeeping) and the domestical conservation and uses of all that is brought in by industry abroad. The business of these professors should not be, as is commonly practiced in other arts, only to read pompous and superficial lectures out of *Virgil's Georgics*, *Pliny*, *Varro*, or *Columella*, but to instruct their pupils in the whole method and course of this study, which might be run through perhaps with diligence in a year or two; and the continual succession of scholars, upon a moderate taxation for their diet, lodging and learning, would be a sufficient constant revenue for maintenance of the house and the professors, who should be men not chosen for the ostentation of critical literature, but for solid and experimental knowledge of the things they teach such men; so industrious and public-spirited as I conceive Mr. Hartlib to be, if the gentleman be yet alive; but it is needless to speak farther of my thoughts of this design, unless the present disposition of the age allowed more probability of bringing it into execution.

## VI. PUBLIC INSTRUCTION IN ZURICH.

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### TERRITORY—POPULATION—GOVERNMENT.

THE CANTON OF ZURICH ranks second in population (266,265 in 1860,) and seventh in territory (659 square miles,) among the Cantons of Switzerland. The religion of a large majority (255,000,) is Protestant, and its government is a representative democracy—every citizen being a voter at the age of twenty. The cantonal legislature consists of two hundred and twelve members, who are elected for ten years, and who choose a smaller council of twenty-five members, (one-third going out every two years,) whose president is the chief magistrate of the Canton. The Canton is represented in the Federal Diet or Congress by thirteen members.

The Canton of Zurich is divided politically into eleven districts, (*Bezirke*,) subdivided into counties, (*Zuerfste*,) and the latter subdivided into communes, (*Gemeine*.) Every county, according to the number of its inhabitants, elects members for the Great Council, which is only complete after the members elect from the counties have elected thirteen more members by their votes. Bankrupts or persons convicted of dishonorable crimes are disfranchised permanently or for a time. The Great Council, as representative of the people, is intrusted with the legislation. As the supreme authority of the country, it has the power to appoint all officers of the Canton, or to confirm appointments proposed. It elects the administration of the Canton (*Regierungsrath*—Government council,) but only part of the Board of Education. By the free vote of the counties the government of each district is selected, (*Bezirks collegium*,) which fills all district offices, or has the final approval of all nominations. It appoints for instance the judges of the district, and proposes to the Government council three names for district governor, (the head of the administration in the district,) who is the representative of the Government council in the district.

The subdivision of the Canton in regard to education is as follows:—School community or neighborhood, parochial community (school circle,) district, Canton. The members of the school community are all those who are required to contribute for the support of the school, and entitled to its benefits; these select their school board. If a parochial community has several schools and consequently several school communities, the members of the parochial community are not identical with the members of the different school communities, as for instance resident citizens may

be members of a school community. The school districts agree with the political districts, the school circles with the parochial communities.

#### SYSTEM OF PUBLIC INSTRUCTION.

The Public Schools of the Canton are classified as follows:—

**I. PRIMARY SCHOOLS, (General popular school—communal school.)**

1. Day school.

a. Elementary school, attended by children from 6-9 years old.

b. Real school, " " " " 9-12 " "

2. Repetition school, " " " " 12-15 " "

3. Singing school, attended by pupils beyond the age of 15 years, who at the same time attend the class for religious instruction.

**II. SECONDARY SCHOOL, (Superior popular district school,) attended by pupils of 12-15 years, and connected with the day-school.**

**III. SUPERIOR AND PROFESSIONAL SCHOOLS, (Cantonal schools.)**

1. The School of the Canton.

a. Gymnasium, preparatory for professional studies.

a. *Lower gymnasium*, for boys of 12-16 years.

b. *Higher gymnasium*, for boys of 16-19 years.

b. Industrial school, preparatory for technical vocations and technical professional studies.

a. *Lower school*, for boys of 12-15 years.

b. *Higher school*, for boys of 15-18 years.

2. The SUPERIOR School, (University,) connected with the Cantonal schools, particularly with the gymnasium—a school of purely liberal studies, as well as a professional school for the statesman, jurist, physician, theologian and teacher of Superior schools.

3. PROFESSIONAL SCHOOLS, joined to the Secondary-school.

a. Seminary for Teachers.

b. Veterinary school.

c. Agricultural Institute.

The attendance at the day school is obligatory to all children. Scholars who, after passing the day school, do not enter the secondary or the canton school, are required by law to attend the repetition school, in which instruction is given on one day per week, and afterwards the singing school, which demands their attendance for one hour in the week.

Fathers who have given evidence of their ability to instruct in the primary elements of education, are permitted to teach their children at home, instead of sending them to the primary school. Whoever occupies a public teachership, or acquires the certificate of eligibility for such position, is a member of the Board of Teachers of the Canton of Zurich. Those who teach in secondary and primary schools, and have acquired the qualification for secondary or primary instruction, compose the body of public teachers.

All the members of the Board of Teachers are voting members of the

School Synod. All the public teachers of a district form a district-chapter of teachers. The teachers at a seminary belong to the chapter of the district in which the institute is situated. The director of the seminary has the privilege of an advisory member of *all* the chapters. Synod and chapter elect their officers from their own members every two years.

Every parochial community elects a school committee, with the resident pastor as chairman, for the inspection of their schools and general superintendence of their interests; the other members of this committee—to the number of five at least—are elected by the parochial members for a term of four years, in the manner that the term of half of them expires every two years. They can be reelected.

The teacher is entitled to a seat in this school committee as advisory member. The superintendence over the schools of a district is vested in a district school committee, composed generally of seven members, two of whom must be pastors, and two teachers, and the remainder must be elected from citizens not of these professions. The two theologians are elected by the ministerial chapter, and the two teachers by the chapter of teachers of the district; the three other members by the government of the district (*Bezirks collegium*).

The term of office is six years; every three years a new election of three members takes place, but the old members can be reelected. The district-school committee elect three alternates, one from the teachers, one from the ministers, and the third from the residents of the district.

Every member of the district school committee is appointed inspector of a certain number of schools in his district. Each primary school must be visited twice a year by the parochial school committee and by the inspector. The inspector conducts the public examination and makes a report on the condition of the school to the district committee. Beyond the inspection of schools it is the duty of the district committee to see that all laws regarding public instruction are faithfully observed; they are the representatives of the Cantonal Board of Education.

Every secondary-school district (which comprehends generally the several school communities of more than one parochial commune,) has for the administration and superintendence of the secondary schools a secondary-school committee, two members of which are elected by the district school committee, and the remaining two by the parochial school committee, for the same term as the members of the last named committee.

The number of members of the secondary-school committee elected by the parochial committee depends on the number of school communities united in the secondary-school district. Every school community shall have at least one member in this secondary-school committee; the latter elect their president from the members, and each member is required to visit the school at least twice in every year. Moreover every secondary school is visited by a district inspector.

The Board of Education superintends all matters of instruction of the

entire Canton. For the purpose of consultation the Board is divided into two sections, the first for secondary, the other for primary education.

The proceedings of the Board of Education are always published in the official papers. The Director of Education, a member of the Great Council, is President of the Board; and of the other six members, two are elected by the School synod from the teachers, and four are appointed by the Government council.

The Board of Education selects the presidents of the district school committees from the members of the same; the presidents of the district committees form the superintending board of the high school. All superintendents of other schools of the Canton are either appointed directly by the Board of Education, or nominated by them for appointment to the Government council. An exception from this rule is the Agricultural Institute, which belongs to the Department of the Interior, and is under the special direction of the Committee of Agriculture attached to this department. The members of the superintending board of this Institute are elected by the Government council on the nomination of the Department of the Interior. The directors of cantonal schools have a privileged seat in the meetings of their superintending board, and are advisory members. Every parochial and secondary-school committee makes a yearly report to the district committee after the annual examinations; the district committee, on the basis of the reports from the parochial committee and the inspectors, submits an annual report on the condition and progress of schools of their district to the Board of Education, and the Director of Education, from these and from the reports of superintendents of superior schools, completes the report on education in the district. The presidents of the chapter of teachers report on the proceedings of the chapter to the director of the Seminary, and the latter renders a total account on the chapters. The reports of the Director of Education and of the director of the seminary are presented to the School synod, which generally orders the publication of the same.

All the officers of the parochial, secondary and district committees labor gratuitously. As members of special committees for inspection of new buildings, etc., they are paid actual expenses. The recorder of the district committee and the president of the chapter receive a moderate remuneration; the members of the Board of Education receive mileage in proportion to the distance they reside from Zurich.

In school matters, appeal can be taken from the decision of the parochial committee to the district committee, and finally to the Board of Education.

The definite appointment of primary teachers is made by the school community; that of secondary teachers by the secondary-school committees; teachers of the cantonal schools are appointed by the Board of Education, or nominated for appointment to the Government council. In regard to the Agricultural Institute, the Department of the Interior and the Committee on Agriculture again take the place of the Board of

Education. All primary and secondary teachers elected must be approved by the Board of Education; but this approval is solely with reference to the manner of election, and an election can only be set aside, when not performed according to the forms of law. The members elect of the different school committees also need the approval of the Board of Education, or rather of the delegates appointed for the district. Where no definite election is made by the district or parochial committee, the Director of Education makes temporary appointments from the number of candidates for teachership. All definite appointments at primary schools, the teachers' seminary, the school of the canton, the veterinary school, and the professorships at the high-school, are for life; those for the secondary-schools are generally for a term of six years. A teacher definitely appointed can not be deprived of his position except by judicial sentence, or non-election on the expiration of his term of office.

State, commune and family coöperate to defray the expenses of public instruction. According to the latest reports, the contributions of the Canton of Zurich for purposes of public instruction amount to one-fifth of its total expenses.

Since all funds and benefactions for special objects of education or for the maintenance of superior schools have been sequestered by the State, to form the general school funds, the total of expenses of superior schools (as far as fees of instruction and contributions of the most favored communes render necessary,) are defrayed from the treasury of the State, as also the amounts granted in aid of public instruction. The different primary and secondary schools have their own funds, administered by officers who are at the same time treasurers of the parochial communes, subject to the control of the district inspector.

#### I. PRIMARY SCHOOLS.

The Canton of Zurich, in all its communes, has 471 day schools, with 28,030 pupils. Repetition schools and singing schools are in charge of the same teachers; in the year 1852-53 the total number of scholars was 20,796.

The primary schools of the different school communes are divided or undivided schools. If a division becomes necessary, it is generally so arranged that one teacher officiates at the elementary school, and another at the real school. Where the schools are undivided, the elementary class, that of repetition and of singing, are under one person. A division must take place whenever the number of pupils has increased to one hundred and twenty. During each year, vacations of from four to eight weeks are prescribed by law; also the number of lessons per week is fixed for day schools at twenty-seven, for the repetition-school at six hours. In order to effect a regular attendance at school, the following means are used:—

The teachers take notice of absentees every half day; those who have not the permission of the teacher or of the president of the school com-

mittee, fall under the head of "culpable." To come one quarter of an hour after commencement three times, is considered, if without excuse, as absence without leave. The teacher or school committee may demand in writing from the parent or master of the scholar, the cause of his absence without leave; if the parent, etc., should be convicted of misstating the reasons of absence, a public censure before the school committee is the first remedy, and upon repetition a fine of from one to four francs. If the pupil of a day-school is absent without proper excuse three times during three scholastic months, the teacher must report such fact to the school committee, and the latter inform the parents, guardian or master. If the same scholar absents himself again three times during the same quarter, the parents, etc., are summoned before the school committee; and if this culpable absence occur a third time, the committee impose a fine of from two to eight francs. During the second quarter no notice is sent, but the parents, etc., are summoned immediately before the committee, if they have been exhorted or fined within the preceding three months; and instead of a third notice a summons before the committee is immediately served, and instead of a third summons the fine is imposed without delay. In schools of repetition and singing, culpable absence, twice within six months, is followed by notice to the parents; if again occurring, by a summons before the committee, and if not remedied yet, by a fine of from two to eight francs. If the parent, etc., does not pay due attention to the summons, an extra fine of one franc can be imposed. All fines flow into the school fund; if not paid within a certain time, they are levied by process of law. If children move into another district, their absence from school must be entered on their certificate.

In the year 1850-51, the total absentism of day-scholars was 372,940 with excuse, and 43,428 culpable; in the year 1851-52, 343,083 with excuse, and 52,456 culpable, so that at average each pupil has been absent nine to ten times.

No factory is permitted to employ any child which has not passed the day-school, during a time when instructions are given; and the pupils of a repetition-school or singing-school must be allowed a regular attendance in those classes by their employers. Boys and girls who have not reached the age of sixteen years, shall not be required to work beyond fourteen hours per day.

Sexes are not separated in any primary school. Classification in the day-school is according to age; in the first class of the elementary-school, children from six to seven years are admitted; in the second class, those from seven to eight years, etc. The teacher of an ungraded school in this manner must engage often six different classes, and it becomes important for him to say much in few words, and while he instructs one class, to give suitable occupation to the others. An examination decides whether children at the age of twelve years will pass into the repetition-school or remain longer in the real-school.

The object of primary schools in the selection of branches and methods of instruction aims at this:—"to educate the children of all classes after uniform principles, and train them to become intelligent, active, useful, moral, and religious persons." This they try to accomplish by the following plan of instruction:—

1. Elementary instruction, (6-9 years of age.)
  - a. Reading and writing, with special regard to the development of memory, the ability of speech and thought.
  - b. The four principles of arithmetic.
  - c. The elements of music (singing.)
  - d. Biblical histories, as suitable for infant minds.
2. Real school, (nine to twelve years.)
  - a. Exercises in composition and language.
  - b. Elements of grammar, by framing sentences.
  - c. Practical arithmetic.
  - d. Selections of practical geometry, more calculated to form the geometric eye, than for strictly scientific study.
  - e. History and geography, chiefly national.
  - f. Natural history, philosophy and physical geography in regard to agriculture and mechanics.
  - g. Biblical history, Christian morals, development of the aesthetic by instruction in singing, drawing, etc.

Religious instruction is imparted in the day-school by the teacher, in the repetition-school by the pastor. The singing-school is at the same time the class of catechumens.

The matter of instruction is distributed among the different classes, as follows:—

*Elementary School.*—During the first year the aim should be only to develop the senses and the understanding. Instruction in language comprehends the training of the organs of hearing and of speech by pronouncing elementary sounds and syllables, the resolution of the latter into sounds, the knowledge of printed and written letters, words and syllables. Instruction in arithmetic has for its object a correct idea of number, exercises in the value of fundamental numbers (1-10) by addition and subtraction, and a knowledge of numerical signs. Drawing and writing should exercise the eye and hand, and instruction in religion should be limited to quickening the moral and religious sensibilities by simple narratives.

During the second year, instruction in language proceeds to reading of simple sentences and easy histories; arithmetic extends the previous exercises to units, tens and hundreds; in drawing, after points and lines in the first year, the pupils may learn about angles, etc.; in religion, they will aim to cultivate the moral and religious sensibilities.

The third year should complete the formal elementary instruction, viz.: in language, to the reading of descriptions and histories, hymns, etc.; in arithmetic, multiplication and division by the fundamental numbers

(1-10) of hundreds, tenths and units ; in mental arithmetic, practical problems ; in drawing, straight and curved lines, curvilinear figures ; in religion, interpretation of Bible verses, etc.

*Real School.*—In this grade the school instruction is more specific. Instructions are required of a general kind ; yet all branches must be studied in the national language, which must be used for practice in thought, speech, and writing.

In the fourth year of the elementary course, the instruction in language proceeds to definitions in grammar and part of etymology. In arithmetic, the multiplication and division is continued in numbers of three figures, and the four ground rules in denominate numbers. In geometry, lines and angles are explained, so as to show to the eye of the scholar geometric form and properties. Of the real sciences the plan of this year incloses : Geography of the Canton of Zurich and of Switzerland ; selections from general history ; descriptions in natural science. Instruction in singing includes rhythmical exercises and the first principles of method ; drawing aims at a quick eye and a steady hand, having regard also to the improvement in penmanship, particularly to German current hand. In religion a catechetical instruction in Old Testament history is given.

The fifth year completes in language the grammar on etymology and syntax ; in arithmetic, all operations with fractions ; in geometry the peculiarities of the square, sphere, and parallels ; weights and measures. The history of Switzerland and an introduction into general geography belong to this course ; in singing, practice of melodic and dynamic exercises ; drawing and writing from copies, and after more difficult sketches ; religion, embracing the history of the New Testament.

The sixth year embraces the complete course of grammar, syntax, business correspondence, plane surveying, selections from natural history and philosophy, singing, more difficult copies in drawing and writing in German and Latin text ; instruction in religion so as to interpret difficult passages of Scripture, etc.

In the *Elementary School*, fourteen hours are devoted to language ; five to arithmetic ; five to geometry ; three to religion. In the *Real School*, twelve hours are given to language ; four to arithmetic ; two to geometry ; three to selections from natural history and philosophy, etc. ; four to drawing, writing and singing, and two to religious instruction.

The *Repetition School*, occupying only six hours in the week, aims at a careful review of the most essential parts of the previous course. The singing school, in which once a week the pupils of the repetition-school and the catechumens are collected and taught in reference to church singing.

Obligatory school-books are selected in the following manner : A work is sent to the Board of Education for examination ; or the Board requests a person, who from his pedagogic experience and position as teacher commands their confidence, to prepare a school-book after a plan indi-

cated. The manuscript is then examined by a committee of experts, who may suggest alterations, and finally, indicate a partial acceptance. The author is allowed a fixed sum for the copyright by the Board. The book is printed, and each public teacher is furnished with a copy. After it has been some time in the hands of the teachers, a meeting of the teachers' chapter is held, for consultation on its merits: each chapter elects a representative, and the representatives of all the chapters, at the call of the senior member, assemble in Zurich, where, after a thorough discussion, and by a free and independent vote, (they receive no instructions from their electors,) they either recommend the book for adoption as an obligatory means of instruction, or for modification in certain points, or reject it altogether. Their resolution is presented to the Board of Education, which takes a final decision, generally in accordance with the vote of the teachers. Religious means of instruction are submitted also to the approval of the church council. The expense of delegates of the chapters while away from their homes, and corresponding to the distance from Zurich, is defrayed. The composition in type is preserved until the decision from the Board of Education is made known; in the latter years the State has undertaken the publication of some school-books, and found that this could be done at very little expense, so that for instance a little volume of two sheets comes to five cents.

The course of education of primary teachers is generally as follows:— Primary school, secondary school, Seminary. In order to secure a sufficient number of able young men for the profession of teachers, a preparatory institute has been established by the State. Every pupil of a secondary-school at the age of fourteen years can present himself to the district committee for examination as candidate of teachership. His examination, made by a special commission of that committee, shall be chiefly with regard to mental ability and physical constitution. The Director of Education selects from the candidates proposed by the district committee. Every year a candidate is admitted from each district; and if there is no candidate from one district, the place is filled from the names of the examined of another district. Each pupil of a secondary-school, who is approved as a candidate for teachership, is paid a yearly subsidy of forty-six francs, sixty-seven centimes, upon the recommendation of the director of the Seminary, based on the teacher's report of the conduct and progress of the pupil, rendered each semester.

The admission into the Seminary, and the granting of free scholarships, takes place in the order of the date of registry of the candidates examined and approved.

In the Spring of each year an examination is held for those who wish to obtain the qualification as primary teacher, and for those desiring to obtain a certificate of a higher degree. Strangers are admitted to these examinations, and whoever gives satisfaction can obtain the certificate, no matter what his course of education has been. Admittance is refused only to those who failed at three previous examinations; those who have

been by law deprived of municipal privileges, and those who are unfit for the profession on account of defects of the body. Applications must be made to the Board of Education. The examination is extended on all branches of primary schools, and consists of oral, written and practical exercises; an examination in writing is had only in regard to language and mathematics. Trial lessons may be dispensed with, if the recommendations and certificates of the candidate warrant an exception. The examination is public, and the teachers of the Seminary are the examiners, in conjunction with experts appointed by the Board of Education, from its members or from other teachers. The expert as well as the examiner, after examining a candidate, mark down the result by figure I., II. or III. From these figures and those affixed to the written examination, the total of the certificate is made up by the examining commission, which makes proposal to the Board of Education, in the case of each candidate, as to his non-admission, or to a certificate No. I., (very able,) No. II., (able,) or No. III., (conditional.) The Director of Education issues the certificate in the name of the Board, and the candidate is in possession of the same within a few days after the examination. The members of the examining commission are allowed mileage, etc.; but no charges are made to the candidates. One or more candidates may have an extra examination, for which two members of the Board of Education are appointed. These extra examinations also are gratuitous for candidates of primary schools, but candidates for secondary schools must defray expenses.

Those who obtain certificate No. III. can pursue a Course of Completion; the pupils of this course are instructed by the teachers of the Seminary, from the beginning of May to the end of July, chiefly in the practical use and theoretical methods of the obligatory studies. At the end of the course an examination is held for those who desire to obtain a better certificate; but no one is forced to subject himself to this examination if he chooses to return with certificate No. III., in which case he is liable to be called upon to take part in a future Course of Completion. The scholars of this course are all teachers in office, for a candidate, after passing this examination, generally finds a temporary or definite engagement. Teachers without means receive a contribution from the State, towards the expenses of a deputy and of their residence at the Seminary. The teachers of the Seminary are paid extra for the Course of Completion.

A public-school teacher can hold only certain offices of the Canton or districts, viz.: 1. that of a member of the Great Council; 2. that of a member of the district or parochial school committee. Other offices can be accepted by the teacher only with permission of the district-school committee, which is granted when no disadvantage arises to the school from duties required of such office.

No teacher of the Canton is required to perform any public duty not immediately connected with his profession.

The teachers of Zurich as a class are organized into chapters and a

synod. Primary and secondary teachers compose the chapter; and these together with all the other public teachers form the synod, which thus unites all the teachers of the primary, secondary and high-schools. The chapter usually meets once every three months, and may meet oftener. The place of meeting varies, but must always be in a school-house. All the members of the chapter are obliged to attend; the proceedings of the chapter are not public; officers are elected for two years, and consist of a president, a vice-president, and a secretary. Every member of the chapter, who has not been a public teacher of the Canton during fifteen years, is required to furnish to the president annually a composition in writing on a subject selected by himself. The proceedings of the chapter must occupy at least four hours; they are opened by singing, which is usually followed by some practice in teaching; after which the pupils of the school withdraw, and a discussion on the previous practice and method begins. A discourse of an educational character, followed by a criticism and discussion, and if time permits, on some subject of pedagogy, are part of the regular proceedings. If occasion demands, opinions are expressed on books of instruction, the election of members of the school committees, of officers of the chapter, deputies, librarian, etc., takes place, and scientific lectures are given. Each chapter has a library, for the increase of which the State pays thirty francs per year. A librarian, elected by the members of the chapter, superintends the same. The presidents of chapters assemble annually in Zurich to deliberate on the order of the meetings for the next year. The Board of Education presents a subject for prize composition every year, for which every public teacher may compete. One school in every district is declared the model school, and is selected annually, according to the report of the district committee, by the Board of Education. Each model school receives from the State an annual sum for the increase of its means of instruction and an addition to the teachers' salary. Candidates, *i. e.*, members of the chapter, not definitely appointed, and teachers with certificate No. III., are required to visit the model school; they are also required to present themselves once in a year before the president of the chapter, and render an account of their private studies for further improvement in knowledge, which generally give satisfactory results. All elections in the chapter are by secret ballot, except those for temporary committees. In the last meeting of the chapter preceding the assembling of the synod (last Monday in August,) the "wishes and instructions of synod" are considered, and a deputy to the synod is elected. All the deputies from chapters meet on the evening preceding the meeting of the synod, at the place where the latter is to be held, and thus form the pro-synod; they decide finally on all subjects and petitions of the chapters which shall be the order of the day in the proceedings of the synod.

On the morning of the day of meeting of synod, the members are called to church by a ringing of bells. Singing, a short prayer, and the address of the president open the session; the members who take part

in the assembly (which is not obligatory,) are required to appear dressed in black cloth. The Board of Education is represented by three deputies; the members of district committees can attend as advisory members; the public are admitted. The opening is followed by the reception of new members, the report of the Board of Education on the progress of schools, the report of the director of the Seminary on the labor of the chapters, and the reports of committees. The two first reports are generally ordered to be printed. Next follows a pedagogic lecture, a criticism and discussion of the same; these lectures (always written) are delivered according to a fixed programme, and the meeting can order the publication of lecture and criticism. A pamphlet, containing the proceedings of the school synod, the reports, and sometimes the lecture, is furnished gratuitously to each member. After the debates mentioned above, resolutions are passed with reference to the petitions and wishes of the synod to be presented to the Cantonal authorities; finally the election of officers takes place, whenever the terms of any of them are expiring, or of such as are elected by the synod; also the selection of special committees. The synod elects a president, vice-president, secretary for two years, not to be re-elected, two members of the Board of Education, and the members of special committees. The meeting is closed by singing. The place where synod is to be held is changed every year. The budget of the State is charged with a certain sum for the expenses of printing, etc., of the synod. Extraordinary meetings of synod may be held, upon resolution of the synod or of the Board of Education, or upon the demand of three chapters. A committee of the school synod of Zurich has published a collection of songs for male choirs and one for mixed choirs, music and poetry in part by Zurich teachers, which are distributed all over Europe on account of the fine selection and the unexampled low price. In some parts of the canton they have a voluntary teachers' union, the members of which meet every two or three weeks, and in an afternoon session labor for their professional improvement. In these meetings they make extempore speeches on subjects of instruction, experiments in methodic and practical teaching, criticism of new books, etc.

Each school has its treasury and a fund (*Schulgut*) administered by the school administrator, who is elected by the commune for the term of four years, and can be re-elected. Every member of the school commune is eligible for this position; but the office gives no salary. The interest accruing from the school fund only is used, and forms one item of the revenue of schools for current expenses. All the citizens of a community are members of the school commune in which they reside; those who acquire citizenship must pay a certain sum in order to become members of the school commune, proportionate to the amount of the fund. Into this school fund, according to law, are paid:—

1. All ground-rents and tithes, if any existing.
2. Fees of immigration, which means a sum paid when a member of

the commune marries a woman belonging to another commune, which sum is considerable if the wife is from another country. (For a Swiss woman it amounts to four francs, for a German to forty francs.)

3. Fees of marriage, amounting to two francs at least.

4. Voluntary school tax, the proceeds of a collection on one Sunday in the year, when a sermon is preached in all the churches on Education, and which is distributed among the schools of a parish in proportion to the number of pupils.

5. Voluntary contributions and donations.

6. Legacies.

As all these receipts flow into the school fund, while the interest of the principal can only be expended, an increase is very wisely provided, and accrues from year to year.

In the year 1850-51, the total of school funds in the Canton amounted to 225,791 francs, 73 centimes; in the year 1851-52, to 230,415 francs, 81 centimes. Besides the interest of the fund, the school treasury receives the proceeds of public lands, fees for tuition, fines, part of the fees of settlement in a commune, contributions from the State, and taxes. From the treasury are paid: salaries of teachers, pensions, means of instruction, care, heating, repair and building of school-houses, interest on debts, and other current expenses. If the receipts are smaller than the expenses, the school commune may order a general tax, of which three-fourths is levied on the income, one-eighth in equal parts on all citizens, and an eighth in equal parts on all householders. The fee of settlement depends on the value of the property of a commune, and one-third of this fee goes into the school treasury, one-third into the fund for the poor, and one-third to the commune.

For each pupil of the day-school, one shilling per week is paid; for each pupil of the repetition-school, half a shilling. (A shilling is 35-100 francs.) This school fee is paid from the fund for the poor, when the parents have no means, and are depending on charity; if the parents are poor, but not depending on charity, the State pays part of the instruction, and school-books for their children. Though children do not attend the school of the commune, yet the fees for tuition must be paid as long as they are required by law to attend school. The fees of tuition form a part of the teacher's salary, but they are collected with other taxes and paid to the teacher by the administrator. The school commune is obliged to pay annually one hundred francs towards the teachers' salary, to furnish him two cords of wood, a suitable residence, and a piece of garden land, or in place of these, an amount of money to be fixed by the school committee. The communes are not obliged to pay pensions to teachers, and do this voluntarily only to deserving teachers, or when, in case of dissatisfaction not justifying a removal, but making the suspension of the teacher desirable, they have purchased the latter at the price of a pension. As a general rule, pensions are paid by the State, in consideration of age, years of service, previous salary and usefulness of the person.

The maximum of pensions is one hundred and sixty francs. Moreover the State gives aid to thirty or forty old teachers, who are still in service, when they need a temporary assistant, by sums of forty to sixty francs per year; and the two oldest teachers of the Canton receive a yearly subsidy of twenty francs, which are taken from the interest of a fund bequeathed for this purpose by an unknown friend of the schools.

To the fees for tuition and the contribution of the school commune must still be added a third part which the State pays towards the salary of teachers, and which till 1850 amounted to one hundred francs for each teacher. During the year 1850 the salaries of teachers were increased, and whenever the same, as derived from the State, (one hundred francs,) the commune, (one hundred francs,) and half of the tuition fee, does not reach the sum of three hundred and sixty francs, the deficit is made up by the State. It has also been resolved that after ten years of service, the minimum of a teacher's salary shall be four hundred francs; and be increased according to age and the number of pupils.

In the Canton of Zurich, the sale of salt is a monopoly of the State, and from the profits resulting from it in each commune, six per cent. is paid into the school fund; the sum thus realized is distributed by the school committee to the different school communes, in the ratio of the number of their pupils, and may be incorporated into the school fund or used for current expenses.

Finally the State devotes annually twenty thousand francs for the purpose of, 1. to facilitate improvements in instruction, and for the benefit of the school in general when necessary; 2. to contribute towards the fees of tuition for children of poor families, and their school-books, which latter are given gratuitously or at a moderate price; 3. to encourage school communes of limited means to introduce modern improvements. In distributing these contributions among the communes, the following questions must be answered by the school committee:—

1. Would there have been a deficit in the treasury of the school commune for the year ending December 31st last, if the *receipts* were derived solely from the interest of the school fund, rents of estates, sale of products, fees of tuition, fines, fees of settlement; and the *expenses* had been only for teachers' salaries, pensions, cost of means of instruction, heating and repair of school-house, interest on debts, and minor current expenses? How large would the deficit be in this case? If this deficit should be made up by a general school-tax, how much would be imposed per thousand francs of property, or would have to be laid on each household and on each citizen?

2. How many pupils of parents, not depending on charity, but poor, and who pay not more than one franc of State tax per year, have attended the day-school, repetition and singing-school during the last three months?

3. Have special efforts been made, during the last year, in the school-district, for the promotion of school matters? What was the object of these efforts?

When an affirmative answer is given to question No. 3, the following is added:—

4. What was the total number of pupils in the day-school, the repetition and singing-school, and the amount of taxable property in the school commune at the end of the scholastic year?

The duty to provide suitable school-houses rests upon the school commune. Freeholders are required to contribute for the building of the school-house in the place in which they reside; other citizens are taxed for the school-house in their home, that is, the place in which they hold citizenship. There are distinct regulations existing with regard to the details in the arrangement of new school-houses, as for instance on the selection of the building lot, description of school-rooms, seats and desks, etc., residence of the teacher, partition of the building, style and material, etc.

A school-room for 100-120 pupils must be of 1062 13-16 square feet, not less than ten feet in height; the windows six feet high, and four feet wide. The teacher's residence must occupy one half of the building, and must contain a study, kitchen, two chambers, a cellar, woodshed, etc. Lightning rods must be attached to every school-house.

When the frame and roof is completed, the commune can petition the State for a contribution, for the purpose of erecting a residence for the teacher, showing by accounts properly verified, and attested by the different school-committees, the cost of the building thus far, and also the condition of the property of the commune. In the year 1851-52, four thousand three hundred and two francs were granted for such purposes by the State; at the end of that year, three hundred and forty-one school-rooms were reported as in good condition, ninety-eight as tolerably good, and thirty-one as not satisfactory.

#### II. SECONDARY SCHOOLS.

By the establishment of secondary public schools, the State has gratified the desires of those parents who wish to give their children of the age of twelve years an education beyond that of primary schools, or to prepare them, in the vicinity of their homes, for the studies of the superior schools. The main object of the secondary-school, however, is a better general education of the people, not to prepare for professional or high-schools. According to the intention of the founders of these schools, they should aim at training a class of intelligent citizens, who would be able to become leaders in public life or suitable members of the school-committees; while the plan of instruction in primary schools embraces language, number, form, art, religion. The different branches of science appear more distinctly in the plan of secondary-schools. Yet the secondary-school teacher who would introduce an abstract system of distinct

*Note.*—The author observes here, that there is a popular current in favor of some modification in the school organism. For instance, the office of Cantonal Inspector should be created; the preparatory school of the Seminary should be discontinued, and the course at the Seminary extended to four years, etc.

parts of science, would not fulfil the object of his school, which is rather more to select useful and instructive matters of science, and to present them in a striking and direct manner, with the vivacity peculiar to the people. The subjects of instruction in the secondary-school are: Religion, the German and French languages, arithmetic and geometry, history and geography, natural science, drawing, penmanship and singing. All these studies, except the French language, are obligatory upon all pupils.

A distinct plan of instruction, binding on all teachers, does not exist; the peculiar demands of each district are taken into account, perhaps more than is beneficial.

Each scholastic year in itself shall offer something complete, some total part of science, which however must be arranged so as to form a basis for the instructions of the next year.

This demand, which is difficult to observe, is made by the law, in order to give a kind of finished education to those who can attend this school but for one or two years. The complete course is for three years; those who attend the secondary-school for two years are no longer required to join the repetition-school. Usually the secondary-school is divided into three classes; the hours of instruction are thirty-three per week, and vacations of seven weeks per year. As boys and girls enter the secondary-schools, a division into more classes often becomes necessary, since many branches can not well be taught to both sexes alike. Notwithstanding this, however, a teacher of a good secondary-school gives to his pupils the same instruction that can be obtained in the three or four classes of a higher burgher-school in Germany from a number of teachers. It frequently happens that talented pupils from the highest class of the secondary-school are admitted in the first class of the lower school of industry, or after some private study, into the lower class of the upper school of industry. The forty-eight secondary-schools of the Canton are so distributed as to be accessible to all; they were attended during the year 1851-52 by twelve hundred and sixty pupils. Where the number of pupils is large, or when several districts unite their means, several teachers are engaged, who divide the several branches of instruction among themselves according to their preference. Those who enter a secondary-school must be twelve years old, and are required to prove, in an examination, that they have obtained the knowledge imparted by primary schools. The teacher has a vote in the decision of the examining committee. The fee of tuition amounts to sixteen francs for each pupil, and goes into the school fund. Whenever the condition of the school permits, four free scholarships must be granted.

Almost all secondary teachers obtain their professional education at a seminary; next they take their residence for some time in the French cantons of Switzerland, in order to acquire a perfect knowledge of that language. There are also secondary teachers who never attended a seminary, but attended the instructions at a cantonal school, a polytechnic

school, or a high-school, etc. In order to become qualified as secondary teacher, a satisfactory examination is all that is required; the examining committee consists of the teachers of the Seminary, and one expert for each branch appointed by the Board of Education. Strangers are admitted to these examinations. Except mathematics and the two languages, the candidate may decline examination in one branch; but if he gives satisfaction in all the other branches, he will obtain the qualification of secondary teacher. One who does not pass the examination satisfactorily in mathematics and languages, obtains only a qualification for certain branches, and may be engaged for these branches as assistant of the teacher of any school, but he can not take the sole charge of a secondary-school himself. The certificate of examination contains a note on the efficiency of the candidate in each branch of secondary instruction.

Uniformity of books and means of instruction have not been secured in the schools of Zurich; efforts are made in this direction. The approval of the Board of Education is required, before any work can be introduced into schools.

All secondary-schools have a school fund (*Schulgut*), made up from contributions of the State, private donations, and increased here and there by foundations for the benefit of higher schools. From the year 1833 the State made annual contributions to each of the fifty secondary school-districts for the purpose of establishing secondary popular schools, at first to the amount of three hundred and twenty francs, and since 1836, of seven hundred and twenty francs, and the withdrawal of this amount was threatened if a secondary-school were not established and in active operation in the district in the year 1840. Several districts organized their school in 1839, when a considerable school fund had accrued from the regular contributions and the interest thereof. The State still continues the contributions; thus the receipts of a secondary-school are derived from: 1. the State (seven hundred and twenty francs); 2. the interest of the school fund; 3. the fees of tuition. In 1851-52, the amount of school funds in the Canton was 230,415 francs, 31 centimes. At first, from doubts of the permanency of secondary-schools, teachers were engaged for a term of six years; this fear has disappeared, and their office is now for life. Each secondary teacher receives from the school fund eight hundred francs, and a free residence, or in place of it an additional sum of one hundred francs. The school committee can make additions to this fixed salary. The administrator of the secondary school fund is nominated from the members of the school committee. Instruction in religion is usually given by the resident pastor; and a remuneration made for his labor. Assistant teachers for singing, penmanship, etc., are to be paid by the teacher of the school; the latter may occupy the position of resident pastor or assistant pastor, together with that of secondary teacher.

*City Schools of Zurich and Winterthur.*

The city schools of Zurich embrace the primary school, secondary

classes, and a *special school* for the poor. The schools of Winterthur also embrace a *primary school* (two divisions, one for the sons of citizens, the other for the children of residents,) a *gymnasial class*, and one class of a *school of industry* (about equal to the lower class of the gymnasium and the school of industry of the canton,) and a *technical school*. In all the city schools the system of classes and sexes has been introduced. At the end of the year 1851-52, the city schools of Zurich numbered forty-six teachers and seventeen hundred and fifteen scholars; those of Winterthur, thirty teachers and one thousand and nineteen scholars. Both cities have a school board, who superintend the schools in the same manner as the parochial school committee, and sustain a relation to the Board of Education similar to that of the district-school committee. The school board in both cities is composed of thirteen members, elected by the school commune, or by the city council (in Zurich.) Two members must be elected from the teachers, and two from the pastors, for the school board of Zurich. In Winterthur, two members are elected from the citizens, and the rector and chief pastor of the city are ex-officio members of the board. In both cities the teachers of city schools form an association, and the school board asks for the advice of this association in all school matters. Teachers are elected by the city commune, from candidates proposed by the school board. In 1851-52, the school fund of the city amounted in Zurich to 615,532 francs, 94 centimes; in Winterthur, to 583,333 francs, 28 centimes. Preference is shown to the children of citizens in regard to conditions of admittance.

### III. SUPERIOR OR PROFESSIONAL SCHOOLS.

#### *The Cantonal Schools.*

The schools of the Canton include the Teachers' Seminary, the School of Agriculture, the Veterinary School, the Cantonal School and the High School (University.) The name of superior schools comprehends the three last named.

There is a cantonal school treasury, under the supervision of the school administrator. This treasury receives:

1. Fees of tuition and of registration (cantonal and high-schools).
2. Contributions from the State and the city.
3. Duties on stamped paper (containing a certificate of the health of cattle brought into the city,) which are part of the receipts of the veterinary school.
4. Annual contribution of the city of Zurich. Its amount has been twenty thousand francs per year since 1836, when this sum was granted in order to secure the location of the schools in Zurich.

The costs of maintaining the school buildings and furniture are defrayed by the State directly; other expenses are paid from the cantonal fund, and if that is not sufficient, the State furnishes what is necessary. Thus the expenses of cantonal schools are paid entirely by the State, since the cantonal treasury is but an auxiliary of the former.

The cantonal schools (with exception of the Seminary,) have in common a library, composed of the books of the ancient convent, of the university, of the gymnasium, of the school of industry and the veterinary-school.

For the increase of the library, each faculty of the high-school and each committee of teachers of the other schools draws a fixed amount from the cantonal treasury. Beyond this the following contributions are to the same purpose: Voluntary donations made by professors; fees paid for obtaining academical degrees, etc. Each faculty of the high-school and each committee of teachers selects the books to be purchased for the library from their separate allowances. The general library is accessible to all members of cantonal schools; books suitable for students are carefully selected. The teachers of the Seminary pay an annual fee of four francs for the use of the library; others a fee of eight francs for the year.

The Board of Education disposes of a certain sum of money as yearly stipends for talented poor students of the higher schools; this sum is spent often only in part, and a reserve fund is formed from it, from which poor students are sometimes enabled to visit a foreign university. The total of stipends granted in 1853 was eleven thousand nine hundred and seventy-two francs; in 1851-52, eleven thousand five hundred and seventy-five francs, of which eight thousand one hundred and seventy-five francs were for students of the superior cantonal schools, and three thousand four hundred francs for six students in foreign universities. The amount of a stipend varies from sixty to one hundred and twenty, one hundred and eighty, two hundred and forty, three hundred and fifty or four hundred and fifty-five francs and more, and is left altogether to the discretion of the Board of Education, who decide on the relative abilities of the applicant, his morality and assiduity. Students receiving stipends are under special superintendence of teachers of the university, appointed for this purpose by the Board of Education.

#### *Teachers' Seminary.*

The Canton of Zurich has a Seminary for the training of well qualified teachers for its public schools. Conditions of admission in the Seminary are: The candidate must be sixteen years old, of sound health, and not deformed in body or deficient in limb; he must present creditable testimonials as to moral deportment, and in a satisfactory examination show the amount of knowledge of the programme of a secondary-school, in the following branches: 1. Biblical history; 2. German and French languages; 3. Arithmetic and geometry; 4. History; 5. Geography; 6. Natural history; 7. Singing, drawing, and penmanship.

Admittance is at first for a trial term of three months; afterwards, upon the recommendation of the teacher, a permanent registration is accorded.

Branches of instruction at the seminary are: 1. Religion and moral philosophy; 2. Pedagogics; 3. The German language; 4. The French language; 5. Mathematics; 6. History; 7. Geography; 8. Natural his-

tory; 9. Singing, and playing the violin; 10. Penmanship; 11. Drawing; 12. Gymnastics; 13. Theory of farming and practical work.

Instruction on the violin is not obligatory, but all other branches are. As an exception, students may be dispensed from participation in the gymnastic exercises. All instruction must be given with special reference to the future vocation of the students and to the special object and organization of public schools; and strict attention should be given to observe that the matter of instruction is thoroughly understood and well digested, and that the student is practiced in the treatment and application of each subject. The same principle should be followed in teaching pedagogics. There are three classes in the Seminary, but no class teachers; every teacher is selected for certain branches.

The course of instruction is three years, and resulting from this there are three classes. For practical training in teaching, a practice-school is connected with the Seminary, which in organization and labor should be a model of an undivided primary-school.

The commission of superintendence of the Seminary is composed of seven members, appointed by the Board of Education from its own members or from other persons, for a term of four years, so that two members are appointed every two years. This commission makes regular visitations at the Seminary; supervises the labor of director and teachers, the industry and deportment of the scholars; they approve plans of instruction and other propositions of the director, and his reports to the Board of Education. The director is an advisory member of this commission; other teachers may be consulted in its sessions.

The director, who must belong to the Protestant church, is elected by the Board of Education upon recommendation of the section for popular instruction, and his appointment must be approved by the Government council. His engagement is for life, though usually a trial term of two years precedes the permanent appointment.

The convention of teachers under the presidency of the director forms the immediate board of supervision; the plan of studies, the order and time of lessons, of certificates and censures of pupils, of their definite admission and promotion into higher classes, and the use of extraordinary means of discipline, are submitted to them.

The director receives a salary of twelve hundred to eighteen hundred francs, with board, residence, fuel, light, etc., for himself and family; every regular teacher is paid one thousand to fourteen hundred francs. An annual sum of four hundred francs is granted for means of instruction, and of four hundred francs for apparatus or tools for gymnastics or practical farming; as well as three thousand two hundred francs for the salaries of assistant teachers and the teacher of the practice-school.

In 1851-52, the number of pupils was sixty-two, of whom about forty reside on the premises. The students of the first and second classes are generally required to live in the Seminary. The expenses of thirty-nine pupils defrayed by the State amounted to six thousand three hundred

and thirty-eight francs, being an average of one hundred and sixty-two francs. Only one pupil received an entirely free scholarship, two others three quarters, twenty-four received one half, and two, one quarter of the expenses. Every student receiving stipends obliges himself to accept any position the State may confer upon him within the first two years after leaving the Seminary.

*Cantonal or State Institution.*

Immediately adjoining the day-school is the School of the Canton, divided into two divisions, Gymnasium, and School of Industry.

*Gymnasium.* The gymnasium has two divisions, the lower and the upper gymnasium. Branches of instruction in the lower gymnasium comprise: 1. Religion; 2. German language; 3. Latin; 4. Greek; 5. French; 6. History; 7. Mathematics; 8. Practical arithmetic; 9. Geography; 10. Singing; 11. Gymnastics.

There are four classes in the lower gymnasium, the course of each being for one year; scholars entering the lowest class must have attained the age of twelve years, and present a good testimonial from their former teacher; they are also subject to examination.

The branches of instruction in the upper gymnasium are: 1. Religion; 2. German; 3. Latin; 4. Greek; 5. Hebrew; 6. French; 7. History; 8. Mathematics; 9. Natural science; 10. Philosophy; 11. Singing; 12. Gymnastics.

The upper gymnasium has three classes; the course for each is of one year. Pupils entering the first class of the upper gymnasium must be sixteen years of age; for the second class, seventeen years, etc.; they are also required to give satisfaction in an examination as to their knowledge and moral deportment.

The Board of Education decides in regard to the distribution of branches of instruction, and the extent to which each science shall be taught. Teachers are engaged for the branches in which they are efficient; the system of class teachers has not been introduced.

The several teachers of the gymnasium form a convention (board) of teachers, which decides on the general course of instruction, the order of lessons and discipline, as far as the Board of Education has not already made decision; they express their opinion on the introduction of school-books, when invited to do so by the Board of Education. The president of the gymnasium is called rector, and he is intrusted with the management of the gymnasium in general and the upper gymnasium in particular; the lower gymnasium is under the special direction of a prorector. The rector is elected from the teachers of the upper gymnasium, the prorector from those of the lower gymnasium, by the Board of Education, for a term of two years, being eligible to reëlection.

Every scholar of the gymnasium pays four francs as a fee of registration, unless he has previously paid that sum at another cantonal school; each scholar of the upper division contributes two francs, and of the lower division one franc, towards the collections of the cantonal schools. The

tuition fee for the lower gymnasium is twenty francs, and for the upper gymnasium, thirty-two francs per year. A moiety of the tuition fees is divided among the teachers of the gymnasium engaged in the first and second classes, according to the number of lessons they teach.

*School of Industry.* The school of industry has two divisions: the lower and the upper school. Branches of instruction for the lower school of industry are: 1. Religion; 2. Mathematics; 3. Natural history and philosophy; 4. German; 5. French; 6. History; 7. Geography; 8. Practical arithmetic; 9. Geometrical design; 10. Drawing; 11. Penmanship; 12. Singing; 13. Gymnastics.

The lower school of industry has three classes of one year's course for each; the Board of Education decides on the plan of instruction; a boy must be twelve years old before he can be received in the lower class, and have a good certificate from former teachers.

Branches of instruction taught in the upper school of industry are: 1. Theoretical mathematics; 2. Applied mathematics; 3. Natural philosophy; 4. Chemistry; 5. Natural history; 6. History; 7. Geography; 8. German; 9. French; 10. English; 11. Italian; 12. Drawing; 13. Geometrical design and drafting of machines; 14. Manufacture; 15. Commercial arithmetic and book-keeping; 16. Penmanship; 17. Singing; 18. Gymnastics. These branches are distributed by the Board of Education upon three years, in such a manner as to allow pupils who will devote themselves to technical or to commercial pursuits, to finish their course in three or two years respectively. A pupil who applies for admission into the upper school of industry, must be fifteen years of age; and if not coming from the lower division of the school, he is examined in all branches which need preparatory knowledge, and must be well recommended.

Pay and organization of teachers is similar to that of the gymnasium; teachers are selected by the Board of Education, and confirmed by the Government council. The teacher of gymnastics is engaged for a term of six years.

In 1851-52, the School of the Canton was attended: in the lower gymnasium by one hundred and twenty-seven, upper gymnasium by sixty-two; lower school of industry by one hundred and twenty-four, upper school of industry by sixty-eight pupils and twenty-one non-resident pupils.

#### *The Veterinary School.*

The course of the veterinary-school of the canton of Zurich embraces the following branches:—Natural philosophy; chemistry; botany; zoölogy; comparative, pathologic and surgical anatomy; physiology; dietetics; training of animals; general pathology and therapeutics; general, special and operative surgery; theory of infectious and contagious diseases; obstetrics; shoeing of horses; practice in treating sick animals, etc. A blacksmith shop and a hospital for sick animals are connected with the school.

The full course of this school is three years, and the above branches of instruction are suitably divided according to the plan of teaching. Teachers are elected by the Board of Education. A director presides over the veterinary-school, elected from the teachers by the Board of Education for the term of two years. There are two regular teachers, with a salary of twelve hundred to fourteen hundred francs, and assistant teachers are engaged as necessary, for which purpose, eighteen hundred francs per year are set apart, and for other incidental purposes, one thousand francs.

Boys of sixteen years of age can be admitted into this school, if they have attended a three years' course of secondary-schools or are otherwise qualified; they must pay a registration fee of eight francs, and a tuition fee of twenty-four francs, half of which goes into the school fund, while the other half is divided among the teachers in proportion to their number of lessons. Private teachers fix their own terms, with the approval of the commission of inspection. The latter consists of five members appointed for the term of five years by the Board of Education, one of whom must be a member of the Board of Education, and one a member of the board of health. They superintend the execution of all laws and regulations, as well as of the resolutions of the Board of Education in reference to this school, and see that teachers and pupils perform their duties.

The usual attendance is from twenty-one to twenty-five.

#### *Agricultural School.*

The agricultural-school was opened May 1st, 1853, and is the youngest one of the cantonal schools. The object, "to train young men in the theory and practice of agriculture," is pursued in part by formal instruction, in part by cultivating an estate near the city of Zurich. This estate belongs to the hospital of the canton, and is leased at a yearly rent of two thousand eight hundred francs. The Great Council granted to the Government council a credit of sixty thousand francs, at three per cent. interest, in order to enable them to give to the agricultural-school a proper outfit. The locality is calculated to accommodate thirty students; not more than ten new pupils shall be admitted at a time; they must pass a satisfactory examination before the commission of supervision. Two annual courses complete the term of the school. A citizen of the canton pays for board, tuition, etc., two hundred and fifty francs the first year, two hundred francs for the second year; others are required to pay three hundred and fifty and two hundred and fifty francs; two free scholarships are attached to the school. A director with a salary of one thousand three hundred and sixty francs, one teacher with a salary of six hundred and forty francs, and a master-farmer with a salary of four hundred francs, compose the board of instruction. During the Summer, three hours per day are devoted to instruction and eight hours to labor; during the Winter, six hours to labor and four hours to instruction.

The course of instruction embraces the following branches:

1. Arithmetic, problems from business life.

- 2. Geometry—measurement, surveying, drafting.
- 3. Mineralogy—different kinds of rock; what parts fit for improving the soil; springs and artesian wells; order of stratas, petrifications, etc.
- 4. Botany—anatomy and physiology of plants; forest trees, herbs for meadows, weeds, poisonous herbs, etc.
- 5. Zoölogy—anatomy and physiology of animals, chiefly of domestic animals; useful and destructive animals.
- 6. Mechanics, as far as relating to agriculture.
- 7. Chemistry—soil and its associations; analysis of soil, of manure, etc.; fermentation, brewery, distillery, manufacture of vinegar, starch, soap, cheese, oil, etc.
- 8. Agriculture—knowledge of soil, manure, training of plants, of cattle, medical treatment of animals, book-keeping for farmers.

Instruction in the German or French language is not part of the programme, but may be given after the regular lessons. Practical labor is exacted in the field and the meadow; the orchard and the forest; in attending to the animals and repairing of harness, etc.

The agricultural school has from sixteen to twenty pupils annually.

*The University.*

This institution, which is always attended by over two hundred students, was founded in the year 1833, during the period of enthusiasm for instruction, and now occupies a distinguished position, being a realization of the ideal of a Swiss university, as nearly as this could be effected with the means of a small canton. We will here only indicate the peculiar points of its organization, which are not found at all universities:

A citizen of the canton, though admitted at another university, can be registered as a student, only if he has passed the final examination of the gymnasium or of the school of industry. Teaching and learning are free; yet it has been provided in the interest of students, that recitations must be held on the lectures in certain chief branches. The degree of Master of Arts is not required of private lecturers at the university (*priat docenten*); they must obtain the permission of the Board of Education on the recommendation of the faculty, who may exact an examination from the candidate. Upon a favorable report of the faculty, a trial lecture must be delivered, after which, if satisfactory, the candidate is pronounced qualified as private lecturer (*docent*).

The cantonal hospital is open to students of medicine.

Scientific collections are large and well arranged.

*Private Schools.*

All private schools in the Canton of Zurich are subject to inspection and control of the school committee of the district in which they are situated, and their plans of instruction must be approved by the Board of Education.

*Federal Polytechnic School.*

This great Scientific University is located at Zurich, but the Federal Government contributes \$45,000 annually to its support.

## NORMAL SCHOOL

AT

### KUSSNACHT, IN THE CANTON OF ZURICH.

THE Normal School at Kussnacht is about a league from the town of Zurich, and the buildings are prettily situated on the borders of the lake of the same name. This institution was re-organized in 1836, though the modifications made have been rather in the details than in the general principles. It now consists of a school for teachers, a preparatory school for this seminary, and three primary model schools. It is intended to supply teachers for the different grades of primary schools of the canton, and during a portion of the year lectures are also delivered in the seminary to the older teachers, who are assembled for the purpose in their vacations.

The superintendence and control of the Normal School is vested by the legislative council in the council of education, who appoint a committee of superintendence from their own body. This committee visits the school at least once a month, attends its examinations, and, in general, inspects its management. The executive power is delegated to a director, who has the immediate charge of the school, and arranges the plan of instruction, in subordination to the council of education. He examines the candidates for admission, inspects the classes of the seminary, and of the schools attached to it, and lectures in the school of repetition for the older teachers. He is also responsible for the discipline, and reports half-yearly the state of the institution to the council of education. He is moreover present at the meeting of the committee of superintendence. There are three other teachers, besides a variable number of assistants. These teachers in turn have charge of the pupils of the Normal School in and out of school-hours. There are conferences of all the teachers, at which the director presides. The manners of the people and the purpose of the seminary render the discipline of very trifling amount. The pupils of the Normal School reside in the village of Kussnacht, but spend the greater part of their time at the school, under the direction of its masters. All the time devoted to study, recitation or lecture, and regular exercise, is passed there.

To be admitted as a candidate for the Normal School, a youth must be sixteen years of age, and of suitable morals, intellectual, and physical qualities for the profession of a teacher. He must have spent two years in the higher division of primary instruction (called here secondary) in the model school, or some equivalent one, or have passed through the preparatory department of the Normal School, which gives a preference to the candidate, other qualifications being equal. The examination of candidates takes place once a year, and in presence of the committee of superintendence, or of a deputation from their body. The formal right of admitting to the school is, however, vested alone in the council of education. The subjects of examination are Bible history, speaking and reading, grammar, the elements of history, geography and natural philosophy, arithmetic and the elements of geometry, writing, drawing, and vocal music. The council of education fixes the number of pupils who may be admitted, and the most proficient of the candidates are selected. There are forty stipendiary places, ten of the value of one hundred and sixty Swiss francs, (forty-eight dollars,) and thirty of half that sum.

Natives who are admitted all receive their instruction gratis. If there is room in the school, foreigners may be received, paying twelve dollars per annum for their instruction. The number of pupils at the date of my visit, in the autumn of 1837, was one hundred and ten. The stipendaries are bound to serve as teachers in the canton two years; a very moderate return for the education received.

There are two grades of courses in the Normal School, one of two years for pupils intending to become teachers in the lower primary schools, the other of three years for the higher primary schools. The courses begin in April, and continue, with seven weeks of vacation, throughout the year. The subjects of instruction are: Religious instruction, German, French, mathematics, history, geography, natural history and philosophy, pedagogy, writing, drawing, and vocal and instrumental music. French is only obligatory upon the students of the three years' course. Gymnastic exercises and swimming are regularly taught and practised.

There is, besides, a lecture of an hour and a half on the art of building, once a week, attended by all the students. Those who learn instrumental music have lessons two hours and a half every week, and two hours of Sunday are occupied with singing in concert. One of the teachers devotes two extra hours every week to the assistance of some of the pupils in their studies, or to repetitions.

At the close of each year there is a public examination, and the pupils are classed according to its results. On leaving the institution, they are arranged in three grades; the first, of those who have gone very satisfactorily through the school, the second, of those who have passed satisfactorily, and the third, of those who have not come up to the standard. Certificates of the first two grades entitle their holders to compete for any vacant primary school.

The courses of practice begin in the second year, when the pupils take regular part in the exercises of the schools attached to the seminary. These are, first, two model schools for children from the ages of six to nine, and from nine to twelve, at which latter age the legal obligation to attend the school ceases. The third, called a secondary school, contains pupils from twelve to sixteen years of age. The system of instruction used in the lower schools is attended with very striking results. The lessons are not divided into distinct branches, studiously kept separate, as in most elementary schools, but are connected, as far as possible, so as to keep the different subjects constantly before the mind. Thus, a lesson of geography is, at the same time, one of history, and incidentally of grammar, natural history, of reading and writing, and so on through the circle of elementary instruction. The Pestalozzian lessons on form are made the basis of writing, and with good success. The lowest class is taught to speak correctly, and to spell by the phonic method, to divide words into syllables, and thus to count. To number the lessons. To make forms and combine them, and thus to write, and through writing to read. The second passes to practical grammar, continues its reading and writing, the lessons in which are made exercises of natural history and grammar. Reading and speaking are combined to produce accuracy in the latter, which is a difficulty where the language has been corrupted into a dialect, as the German has in northern Switzerland. Movable letters are used to give exercises in spelling and reading. The plan of the Pestalozzian exercises in grammar is followed, and when the pupils have learned to write, a whole class, or even two classes, may be kept employed intellectually, as well as mechanically, by one teacher. In reading, the understanding of every thing read is insisted upon, and the class-books are graduated accordingly. I never saw more intelligence and readiness displayed by children than in all these exercises; it affords a

strong contrast to the dullness of schools in which they are taught mechanically. The same principles are carried into the upper classes, and are transplanted into the schools by the young teachers, who act here as assistants. The examination of the second school in Bible history, with its connected geography and grammar lessons; in composition, with special reference to orthography and to the hand-writing; and the music lesson, at all of which the director was so kind as to enable me to be present, were highly creditable.

There are three classes in each of these schools, and the pupils of the Normal Seminary practice as assistant teachers in them at certain periods; the director also gives lessons, which the pupils of the seminary repeat in his presence.

In the highest, or secondary school, the elementary courses are extended, and mathematics and French are added.

The pupils of the preparatory department of the seminary spend two years in teaching in the two model schools, and in receiving instruction in the "secondary school" under the special charge of the director of the seminary. This establishment has furnished, during three years of full activity, two hundred teachers to the cantonal primary schools. These young teachers replace the older ones, who are found by the courses of repetition not able to come up to the present state of instruction, and who receive a retiring pension. The schools must thus be rapidly regenerated throughout the canton, and the education of the people raised to the standard of their wants as republicans.

COURSE OF INSTRUCTION  
PURSUED IN THE NORMAL SEMINARY AT ZURICH, SWITZERLAND.

1st Class and 1st School year.		2nd Class and 2nd School year.		3d Class and 3d School year.	
1st Half year.	2nd Half year.	1st Half year.	2nd Half year.	1st Half year.	2nd Half year.
Geography of Palestine, Jewish Archæology, History of the Christian Church.	Faith and morals, as founded on revelation.	Lectures on the Bible, with practical illustrations and references.	Lectures on the Bible, with practical illustrations and references.	Deeper and more abstract points of doctrine, with scriptural proofs and practical illustrations.	Continuation of the above.
Second Period.	Second Period.				
German.	French.	German.	French.	German.	French.
Alphabets.	Alphabets.	Alphabets.	Alphabets.	Alphabets.	Alphabets.
History.	History.	History from the beginning of the world to the subjection of Greece to the Romans.	From the building of Rome to the Westphalian Peace.	History of Switzerland from the beginning to the Westphalian Peace.	History of Switzerland as it bears on that of the rest of the world to the present period.
Geography.	Geography.	Measurement of parallel lines, properties of triangles, similar triangles.	Further exposition of the properties of triangles, and straight line figures, planimetry.	The circle : elements of stereometry : easy questions in practical geometry.	Polygonal figures : elements of trigonometry : plain and solid angles : projection of straight line figures : questions in the above subjects.
Arithmetick.	Arithmetick.	Elementary rules of arithmetic, vulgar and decimal fractions.	Continuation of exercises in the elementary rules.	Continuation of exercises in Proportion : Simple Equations.	Quadratic and Cubic Equations : Logarithms. Properties of Numbers : Progression.
French.	French.	French.	French.	Continuation of exercises in reading and translating German into French : grammar : syntax : translation of easy pieces of French into German.	Continuation of the above short sketch of French literature.
German.	German.	German.	German.	Continuation of exercises in reading and translating German into French : grammar : vocabulary.	Continuation of the above short sketch of French literature.
Alphabets.	Alphabets.	Alphabets.	Alphabets.	Continuation of exercises in reading and translating German into French : grammar : vocabulary.	Continuation of the above short sketch of French literature.
History.	History.	History.	History.	Continuation of exercises in reading and translating German into French : grammar : vocabulary.	Continuation of the above short sketch of French literature.



# UNIVERSITY OF ZURICH.

PROGRAMME FOR 1866-67.

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## I. FACULTY OF THEOLOGY.

42 COURSES OF LECTURES A YEAR, BY 11 PROFESSORS.

INTRODUCTION to the study of theology; do. to the study of the Old Testament; Interpretation of the Psalms; Theology of the Old Testament; Introduction to the New Testament; Practical exercises on the Old Testament; Theology of the New Testament; Interpretation of the Book of Job; do. Prophet Isaiah; do. Minor Prophets; do. Prophet Zachariah; Elucidation of some of the most difficult texts of the Old Testament; Hebrew archaeology; Geography and history of the Bible; History of the Canon of the New Testament; Interpretation of Jesus' discourses according to Matthew; Interpretation of the Gospel according to St. John; Synopsis of the four Gospels; Interpretation of the Acts of the Apostles; do. Epistle to the Romans; do. Epistle to the Galatians; do. to the Philippians and Philemon with practical exercises; do. Timothy and Titus' Epistles; Interpretation of the seven Catholic Epistles on Jesus' doctrine; Conversation on several points of the New Testament; Exegesis on the Fathers of the Christian Church; Elements of dogmatics; History of dogmatics (2 courses;) Christian dogmatics; Practical exercises in dogmatics; Christian morals; Symbolics; Theory of church government; Catechetics; Practical exercises in catechetics; Practical exercises in homiletics; Liturgics; History of the Church (3 courses); Practical exercises on the same subject, embracing various periods, (3 courses;) History of Protestant theology (2 courses.)

## II. FACULTY OF JURISPRUDENCE.

JURIDICAL, SOCIAL, AND ECONOMICAL SCIENCES.

49 COURSES OF LECTURES A YEAR, BY 11 PROFESSORS.

Philosophy of jurisprudence, or law of nature; History of the Roman civil procedure; Introduction to the study of law (2 courses;) History and institutes of the Roman law (2 courses;) Institutes of Gajus; Pandects; Contracts of the Roman law; Law of inheritance after the Roman law; Law of property: Law of buildings; Practical exercises in civil law (2 courses); Introduction to the study of law; International law; Common law among nations of German origin, embracing the law of Germany proper, the neighboring states of Switzerland, the Netherlands, and England; Explanation of the Mirror of Suabia; Procedure in common law (3 courses;) Practical exercises on the same; Laws of the Swiss cantons compared with each other; Private law of the canton of Zürich; Commercial law; Law of exchange (2 courses;) Law of insurance; Commercial jurisprudence in the common Germanic law (2 courses;) The same compared to the English and American law; Practical exercises on criminal law; Theory and history of commerce and manufactures; Theory of money, banks and science of finances (2 courses;) Elements of national economy; Science of police; National economy (3 courses;) Practical exercises on political economy; National economy applied to agriculture; Agriculture and manufactures in Switzerland; Constitutional law in general; do. of Switzerland; Laws of cities and townships.

## III. FACULTY OF MEDICINE.

63 COURSES OF LECTURES A YEAR, BY 15 PROFESSORS.

Osteology and syndesmology (2 courses;) Human anatomy (2 courses;) General anatomy (histology) (2 courses;) Dissecting (2 courses;) Repetitorium of anatomy; Zoölogy; Comparative anatomy; Medical physics, introductory to physiology; Inorganic chemistry; Organic chemistry; Pharmaceutical chemistry; Physiological chemistry; Materia medica (2 courses;) Physiology of the blood circulation, with a view to pathology; Special (medicinal) botany; Theoretical obstetrics (2 courses;) Sexual diseases of women; Obstetrical clinics (2 courses;) General pathological anatomy; Pathology and therapeutics of syphilis, with demonstrations; History of development of man; Practical microscopy (2 courses;) Human physiology; Physiological experiments on animals; Special pathology and therapeutics; Exercises in prescribing medicines; Medical jurisprudence (2 courses;) Same for lawyers; (2 courses;) History of medicine; Microscopical course of pathological anatomy; Pathological demonstrations and dissections; General therapeutics and special pharmacology; Pathological histology, with microscopical demonstrations; Pathology of the mouth; Special ophthalmia, (eye-lids, cornea, iris, lens, etc.) Ophthalmological clinic (2 courses;) Diseases of the ear; Practical operation for diseased eyes; Medical clinic at the hospitals (2 courses;) Polyclinic; Practical exercises in laryngoscopy and otoscopy; Eye-diseases of accommodation and refraction; Medicinal mineral springs; Theoretical and practical dentistry; Operative course in dentistry.

## IV. FACULTY OF PHILOSOPHY.

157 COURSES OF LECTURES A YEAR, BY 38 PROFESSORS.

## A. Metaphysical, philological, historical section.

a. *Metaphysics, Pedagogics*.—Logic and introduction to the study of metaphysical sciences; Logic and metaphysics; Psychology in general; Psychology viewed from natural sciences; Psychology in connection with pedagogics; Psychological exercises on the third book of Aristotle's work "On the soul;" Philosophical exercises on the first book of Aristotle's metaphysics; Philosophical ethics; Philosophy of religion; General history of religion; History of ancient philosophy; History of philosophy from Cartesius up to Hegel; Sense of hearing; Mental diseases (2 courses;) History of education, and the present state of the higher schools of Germany and Switzerland.

b. *Philology, Archeology—History of Literature*.—Methodology and history of archeology; Sanscrit and explanation of the Nala (2 courses;) History of Greek literature and drama; Pindarus; *Eschylus' Perser*, or the Seven against Thebes; *Eschylus' Agamemnon*; Sophocles' *Aias*; Sophocles' *Philoctetes*; Herodotus, Book I.; Thucydides; Plato's *Gorgia*; Plato's *Symposium*; Greek epigraphy, with practical exercises; Greek metrics; Explanation of selected fragments from the Greek; Ancient metrics; Explanation of Lucretius' *De rerum natura*, lib. I.; Explanation of Plautus' *Pseudulus*; Philological exercises (2 courses;) Terence's *Andria* and selected extracts from other comedies; Sallust's *Catinula*; Cicero pro Quintio; Cicero de finibus bonorum et malorum, with grammatical exercises; Selected poems of Tibullus; Exercises in grammar and writing Latin and Greek; Critical exercises in paleography; Comparative grammar of the principal languages of the Indo-Germanic nations; Sanscrit grammar (3 courses;) Elements of Sanscrit; Sanscrit Kálidásas Meghadúta; Arabic (2 courses;) Mythology of the Germanic nations; Interpretation of the ancient authors; Interpretation of Hartmann's *Iwein*; The *Edda*; History of German poetry in the middle ages; Explanation of the poems of Walter von der Vogelweide; History of German literature from Klopstock's period; Practical exercises in speaking German; English grammar and exercises; Shakespeare's *Hamlet* explained and translated; History of English poetry from Chaucer to the present time; Byron's *Childe Harold*, translated and explained; Exercises (oral and written) in the English language; Villehardouin,

Conquête de Morée; Explanation of the Chanson de Roland; Provençal grammar, with translations; Practical exercises in the French language.

c. *History, History of Art, Geography*—Synopsis of ancient history; Synopsis of the middle ages and modern history; General history of the 19th century; History of the French revolution up to the empire (2 courses;) History of Europe; Modern history, 1814-1848; History of Switzerland from the Reformation up to 1830; Survey of the works written on Swiss history; Helvetia under the Romans; History of Switzerland in the 17th and 18th centuries; Glance at the Swiss history in the 15th century; History of the Helvetic republic; Conversations on universal history (2 courses;) Historical exercises (2 courses;) History of geography (3 courses;) Russian possessions in the Northern regions; The British empire and its development in the five divisions of the globe; The Osmanic empire in the three divisions of the globe; The eastern region of China and Japan; Explanation of the sculptures in the museum of archaeology of Zurich; Political history of Switzerland.

B. *Section of Mathematics and Natural Sciences.*

Elementary mathematics and elements of geodesy; Higher algebra; Descriptive geometry, axonometry and free perspective; Analytical geometry of space; Analysis of algebra; Introduction to higher mathematics; Analysis of complex numbers; Differential and integral calculus (2 courses;) Differential and integral calculus applied to geometry and natural sciences; Select portions of integral calculus; Introduction to celestial mechanics; Elements of astronomy and of mathematical geography, with practical demonstrations (2 courses;) Experimental physics; Experimental physics, heat, light, magnetism, electricity; Electro-dynamics and electro-magnetism; Elasticity and elastical vibrations, treated mathematically; Mechanical theory of heat; Exercises in physical experimentation for teachers; Repetitorium of physics in the German language; Same in the French; Mensuration of bodies for pupils advanced in mathematics; Experimental chemistry, inorganic; Same, organic; Selected portions of chemistry; Zool-chemistry; Practical pharmaceutical chemistry, for druggists and medical students; Qualitative and volumetric analysis; Analytical, theoretical chemistry; Quantitative analysis; Theoretical chemistry (stoechiometry;) Practical chemical investigations in the laboratory; Same, for advanced pupils; Exercises in chemical experimentation for teachers; Compounds of cyanogene; Essential oils and aromatic compounds; Chemistry of daily life; History of chemistry; Practical instruction in chemico-physiological exercises; Mineralogy; Determination of mineral species; Crystallography; General geology; Practical geology and lithology; Chemical geology; General botany; Special botany, including officinal plants, with botanical excursions; Pharmaceutical botany; Vegetable physiology, with microscopical exercises; Fossil plants; Important plants in economy and manufactures; Diseases of cultivated plants; Fossil insects; Physical geography (2 courses.)

## SWISS FEDERAL POLYTECHNIC SCHOOL, ZÜRICH.

### PROGRAMME FOR 1856-7, ESPECIALLY THE FIRST HALF-YEAR.

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#### SUBJECTS OF INSTRUCTION, CLASSED BY DIVISIONS.

##### FIRST DIVISION, OR SCHOOL OF ARCHITECTURE.

*First Year.*—1. a. Art of building, 3 hours; Thursday, Friday and Saturday, 10 to 11.  
b. Architectural design and exercises on building, 3 afternoons, (6 hours per week in winter, 9 in summer;) Wednesday, Friday and Saturday, 2 to 4.  
2. Mechanics, 6 hours; Monday, Wednesday and Saturday, 2 to 4.  
3. a. Elements of differential and integral calculus, 4 hours; Tuesday and Thursday, 8 to 10.  
b. Exercises on differential and integral calculus, 2 hours; Friday, 8 to 10.  
4. a. Stone-cutting; and as introductory, theory of contacts and intersections of curved surfaces, 3 hours; Tuesday and Friday, 5 to 6; Saturday 6 to 7.  
b. Drilling and exercises on stone-cutting, 1 hour; not yet determined.  
5. Designing the figure, (5 hours in winter, 9 summer;) Monday, Tuesday and Thursday, 2 to 4, or 5.  
6. Modeling in earth or plaster, 3 hours; Monday, 1 to 4.  
In all, 16 hours of lessons; 16 to 22 hours of exercises.

*Second Year.*—1. Art of building civil edifices (continuation of course of construction) 3 hours; Wednesday, Friday and Saturday, 11 to 12.  
2. Art of building in middle ages and in the *Renaissance*. (During the second half-year, modern art of building,) 4 hours; Tuesday and Friday, 5 to 7.  
3. Architectural design, sketches and detailed drawings of plans of buildings, (6 to 9 hours;) Tuesday, Friday and Saturday, 2 to 4.  
4. a. Perspective and theory of shadows, 2 hours; Monday and Wednesday, 6 to 7.  
b. Exercises on the same, 1 hour; not yet fixed.  
5. Construction of roads and bridges, 3 hours; Tuesday and Wednesday, 8 to 9, and another hour not determined.  
6. Theory of machines, 4 hours; Tuesday and Friday, 8 to 10.  
7. Designing the figure, 2 or 3 hours; Monday, 2 to 4 or 5.  
8. Modeling in earth or plaster, 2 to 3 hours; Saturday, 2 to 4 or 5.  
In all, 15 hours of lessons; and 11 to 16 of exercises.

*Third Year.*—1. Art of building in the middle ages and during the *Renaissance*. (In the second half-year, modern art of building,) 4 hours; Tuesday and Friday, 3 to 7.  
2. Drafting and detail drawings of architectural plans, 4 afternoons; Tuesday, Wednesday, Friday and Saturday, 2 to 4.  
3. History of the *Renaissance*, 4 hours; Monday, Wednesday, Friday and Saturday, 5 to 6.  
4. Designing the figure, 1 afternoon, 2 or 3 hours; Monday, 2 to 4 or 5.  
5. a. Geology, 4 hours; Tuesday, Thursday, Friday and Saturday, 9 to 10.  
b. Drilling on geology, 1 hour; not yet fixed.  
In all, 12 hours of lessons, and at least 3 afternoons of exercises.

##### SECOND DIVISION, OR SCHOOL OF CIVIL ENGINEERING.

*First Year.*—1. Topography, 3 hours; Monday, Tuesday and Thursday, 10 to 11.

2. Designing plans, 2 or 3 hours; Monday, 2 to 4 or 5.  
 3. Elements of astronomy (for the first half-year,) 3 hours; Wednesday, Thursday and Saturday, 5 to 6; (Obligatory only upon pupils devoting themselves to the study of geodesy.)

4. a. Art of building, 3 hours; Wednesday, Friday and Saturday, 2 to 4.  
 b. Designs for building, 2 afternoons, Tuesday and Thursday, 2 to 4; (4 hours in summer, 6 in winter.)

(These two items are obligatory only upon pupils devoting themselves to civil engineering proper, as roads, railroads, &c.)

5. Mechanics, 6 hours; Monday, Wednesday and Saturday, 8 to 10.

6. Designing machines, 1 afternoon; Friday, 2 to 4; (2 hours in winter 3 in summer.)

7. a. Elements of differential and integral calculus, 4 hours; Tuesday and Monday, 8 to 10.  
 b. Exercises on the same, 2 hours; Friday, 8 to 10.

8. a. Stone-cutting, and as introductory, theory of contact and intersection of curved surfaces, 3 hours; Tuesday and Friday, 5 to 6; Saturday, 6 to 7.  
 b. Drilling and exercises in the art of stone-cutting, 1 hour; not yet fixed.

9. Land-measuring, (in summer,) one day.

19 hours of lessons; 7 to 13 hours of exercises; and in summer, one day of Land-measuring.

*Secondy Year.*—1. a. Construction of roads, railroads and hydraulic buildings, 3 hours; Monday, Tuesday and Thursday, 11 to 12.

b. Drilling in the same, 1 hour; Wednesday, 9 to 10.

2. Exercises in construction of roads and hydraulic works, 3 afternoons, (6 hours in winter, and 9 in summer;) Monday, Tuesday, and Wednesday, 2 to 4 or 5.

(Obligatory only on pupils devoting themselves to civil engineering.)

3. Geodesy, 2 hours; Tuesday and Wednesday, 8 to 9. (Obligatory only on pupils devoting themselves to geodesy.)

4. Drawing maps, 3 hours; Thursday, 2 to 4 or 5.

5. Theory of machines, 4 hours; Tuesday and Wednesday, 8 to 10.

6. Setting up of machines, 1 afternoon, (2 hours in winter, 3 in summer;) Friday, 2 to 4.

7. a. Integral calculus, 2 hours; Monday and Friday, 10 to 11.

b. Analytical geometry, 2 hours; Friday and Saturday, 10 to 11.

c. Exercises in integral calculus and analytical geometry, 2 hours; Tuesday and Thursday, 10 to 11.

d. Integral calculus (a second course,) 3 hours; Monday and Friday, 10 to 11; and one hour not yet fixed.

(b. and c, above, obligatory upon all pupils, and either a or d, at their option.)

8. a. Perspective, and theory of shadows, 2 hours; Monday and Friday, 6 to 7.

b. Exercises on the same, 1 hour; not yet fixed.

9. Industrial physics, Industrial natural philosophy, 4 hours; Monday and Thursday, 8 to 10.

10. Modeling in earth and in plaster, 1 afternoon, 3 hours; Saturday, 1 to 5.

11. Technology of building materials, 1 hour; Monday, 4 to 5  
 (In winter,) 13 to 21 hours of lessons; 12 to 19 hours of exercises.

*Third Year.*—1. a. Construction of roads; hydraulic building, 3 hours; Monday, Tuesday and Friday, 10 to 11.

b. Drilling on the same, 1 hour; Thursday, 10 to 11.

2. Exercises on the same, 3 afternoons; Monday, Tuesday and Wednesday, 2 to 4 or 5.

3. Geodesy, 2 hours; Tuesday and Wednesday, 8 to 9.

4. Drawing maps, 3 hours; Thursday, 2 to 4 or 5.

5. a. Geology, 4 hours; Tuesday, Thursday, Friday and Saturday, 9 to 10.

b. Drilling on same, 1 hour; not yet fixed.

Lessons, 9 hours; exercises, all remaining hours.

## THIRD DIVISION, OR SCHOOL OF INDUSTRIAL MECHANICS.

*First Year.*—1. Mechanics, 6 hours; Monday, Tuesday, Wednesday, 8 to 10.  
 2. Designing machines, 2 afternoons; (4 hours in winter, 6 in summer;) Wednesday and Saturday, 2 to 4 or 5.  
 3. a. Elements of differential and integral calculus, 4 hours; Tuesday and Thursday, 8 to 10.  
 b. Exercises on same, 2 hours; Friday, 8 to 10.  
 4. a. Stone-cutting; and as introductory, theory of contact and intersection of curved surfaces, 3 hours; Tuesday and Friday, 5 to 6; Saturday, 6 to 7.  
 b. Drill and exercises on same, 1 hour; not yet fixed.  
 5. Construction of models in metal, 1 afternoon, 3 hours; Friday, 1 to 4.  
 6. Construction of models in wood, 1 afternoon, 3 hours; Tuesday, 1 to 4.  
 Lessons, 13 hours; exercises, 13 to 15 hours.

*Second Year.*—1. Theory of machines, 2 hours; Tuesday and Friday, 8 to 10.  
 2. a. Construction of machines, 4 hours; Wednesday and Saturday, 8 to 10.  
 b. Setting up of machines, 4 afternoons, (8 hours in winter, 12 in summer;) Tuesday, Wednesday, Thursday and Saturday, 2 to 4 or 5.  
 3. a. Integral calculus, 2 hours; Monday and Wednesday, 10 to 11.  
 b. Analytic geometry, 2 hours; Friday and Saturday, 10 to 11.  
 c. Exercises on both the above, 2 hours; Tuesday and Thursday, 10 to 11.  
 d. Integral calculus (a second course,) 3 hours; Monday and Wednesday 10 to 11; 1 hour not yet fixed.  
 (b and c, above, obligatory on all pupils; and either a or d, at their option.)  
 4. Construction of models in metal, 1 afternoon, 3 hours; Monday, 1 to 4.  
 5. Industrial physics, 4 hours; Monday and Thursday, 8 to 10.  
 6. Mechanical technology, (in winter,) 4 hours; Monday and Friday, 11 to 12; Saturday, 11 to 12 and 4 to 5.

## FOURTH DIVISION, OR SCHOOL OF INDUSTRIAL CHEMISTRY.

*First Year.*—1. Inorganic chemistry, 5 hours; Monday to Friday, 10 to 11.  
 2. Exercises on classical analysis in the laboratory, 2 afternoons, 6 hours; Monday and Tuesday, 1 to 4.  
 3. a. Zoology, first part, 5 hours; Monday to Friday, 5 to 6.  
 b. Drill on same, 1 hour; not yet fixed.  
 4. General botany, 3 hours; Monday to Friday, 4 to 5.  
 5. Mineralogy, 2 to 3 hours; Wednesday and Friday, 3 to 4.  
 6. Technical designing, 4 hours; Monday, 8 to 10; Saturday, 10 to 12.  
 Lessons, 13 hours; exercises, at least 11 hours.

*Second Year.*—*a. Division of Industrial Chemistry.*—1. Industrial chemistry, 4 hours; Monday to Thursday, 10 to 11.  
 2. Manipulations in the laboratory of industrial and pharmaceutical chemistry, 4 afternoons, 12 hours; Monday to Thursday, 1 to 4.  
 3. Industrial physics, 4 hours; Monday and Thursday, 8 to 10.  
 4. Technical designing, 4 hours; Tuesday and Saturday, 10 to 12.  
 5. Chemical technology of building materials, 1 hour; Monday, 4 to 5.  
 6. a. Geology, 4 hours; Tuesday, Thursday, Friday and Saturday, 9 to 10.  
 b. Drill on same, 1 hour; not yet fixed.  
 Lessons 13 hours; exercises 17 hours.

*b. Division of Pharmaceutical Chemistry.*—1. Industrial chemistry, 4 hours; Monday to Thursday, 10 to 11.  
 2. Manipulations in laboratory of industrial and pharmaceutical chemistry, 4 afternoons, 12 hours; Monday to Thursday, 1 to 4.  
 3. Technical portion of pharmacy, 2 hours; Tuesday and Thursday, 4 to 5.  
 4. Raw materials, pharmaceutically considered, 3 hours.  
 5. Pharmaceutical botany, 3 hours; Thursday, Friday and Saturday, 3 to 4.  
 6. Industrial physics, 4 hours; Monday and Thursday, 8 to 10.  
 Lessons, 16 hours; exercises, 12 hours.

## FIFTH DIVISION, OR SCHOOL OF FORESTRY.

*First Year.*—1. Encyclopedia of forestry, 3 hours; Monday, Wednesday and Thursday, 8 to 9.  
 2. Valuation and estimates of roads, 2 hours; Monday and Wednesday, 9 to 10.  
 3. Excursions, exercises on taxation, drill and conversation, 1 day; Saturday.  
 4. a. Zoölogy, first part, 5 hours; Monday to Friday, 5 to 6.  
 b. Drill and questions on above, 1 hour; not yet fixed.  
 5. General botany, 3 hours; Monday to Friday, 4 to 5.  
 6. Mineralogy, 2 hours; Wednesday and Friday, 3 to 4.  
 7. Topography, 3 hours; Monday, Tuesday and Thursday, 10 to 11.  
 8. Design of plans, 2 to 3 hours; Monday, 2 to 4 or 5.  
 9. Geology, with drill on same, 5 hours; Tuesday, Thursday, Friday and Saturday; and 1 hour not yet fixed.  
 Lessons, 24 hours; exercises, 4 to 5 hours, and 1 day.

*Second Year.*—1. Forest administration and police, 3 hours; Monday, Wednesday, Friday, 11 to 12.  
 2. Preservation of forests, 2 hours; Tuesday and Thursday, 11 to 12.  
 3. Statistics and literature of forestry, 1 hour; Friday, 10 to 11.  
 4. Management of forests, 4 hours; Tuesday and Friday, 8 to 10.  
 5. Introduction to management of forestry business, 1 hour; Monday, 6 to 7.  
 6. Excursions, drill, and conversation, 1 day; Saturday.  
 7. Construction of bridges and roads, 2 hours; Wednesday, 8 to 9; and 1 hour not yet fixed.  
 8. Industrial physics, 4 hours; Monday and Thursday, 8 to 10.  
 Lessons, 11 hours; exercises, 1 day and 1 hour.

## SIXTH DIVISION; OF PHILOSOPHICAL AND POLITICAL SCIENCE.

*a. Natural Sciences.*—1. Inorganic chemistry, 3 hours; Monday to Friday, 10 to 11.  
 2. Exercises on chemical analysis in laboratory, 3 hours; Tuesday, 1 to 4.  
 3. Exercises, for the most advanced students, every day except Saturday.  
 4. Chemical technology of building materials, 1 hour; Monday, 4 to 5.  
 5. Experimental physics, 6 hours; every day, 11 to 12.  
 6. Drill on the preceding, 2 hours; not yet fixed.  
 7. Mathematical physics; introduction, and theory of elasticity, 4 hours; Tuesday, Wednesday, Friday and Saturday, 8 to 9.  
 8. Zoölogy, first part, 3 hours; Monday to Friday, 5 to 6.  
 9. Drill and questions on same, 1 hour; not yet fixed.  
 10. General botany, 5 hours; Monday to Friday, 4 to 5.  
 11. Use of microscope, daily; forenoon.  
 12. Antediluvian plants, 3 hours; Monday, Tuesday and Friday, 2 to 3.  
 13. Fossil insects, 2 hours; Tuesday and Wednesday 5 to 6.  
 14. Natural history of mushrooms, with special reference to maladies of plants and animals, 2 hours.  
 15. Drill on general botany, with microscopic demonstration, 2 hours.  
 16. Drill on general botany, with herbal, 1 hour.  
 17. Geology, 4 hours; Tuesday, Thursday, Friday and Saturday, 9 to 10.  
 18. Drill on same; 1 hour, not yet fixed.  
 19. Swiss materials for building, 2 hours; Tuesday and Thursday, 4 to 5.  
 20. History, construction and coloring of geological charts and sections.  
 21. Mineralogy, 2 to 3 hours; Wednesday and Friday, 3 to 4.  
 (Other lessons on mineralogy will be hereafter announced.)

*b. Mathematical Sciences.*—22. Integral calculus, continued from last term, for second year of second and third divisions, 2 hours; Monday and Wednesday, 10 to 11.  
 23. Analytical geometry, continued from last term, for second year of second and third divisions, 2 hours; Friday and Saturday, 10 to 11.  
 24. Exercises for all the students of first and second year of second and third divisions, 2 hours; Tuesday and Thursday, 10 to 11.

25. Algebraic analysis, 2 hours; Monday and Thursday, 11 to 12.  
 26. Elements of differential and integral calculus, 4 hours; Tuesday and Thursday, 8 to 10.  
 27. Exercises on differential and integral calculus, 2 hours; Friday, 8 to 10.  
 28. Intersection and contact of curved surfaces, and stone-cutting, 4 hours; Tuesday and Friday, 5 to 6; Saturday, 6 to 7; and 1 hour not yet fixed.  
 29. Perspective and theory of shadows, 3 hours; Monday and Wednesday, 6 to 7; and 1 hour not yet fixed.  
 30. Elements of astronomy, as introduction to geodesy, 3 hours; Wednesday, Thursday and Saturday, 5 to 6.  
 31. Mathematics, pure and applied, after a manual to appear soon, 4 hours; and a drill of 1 hour.  
 32. Practical course of differential and integral calculus, 3 hours.  
 33. Descriptive geometry, first part, 2 to 3 hours.  
 34. Method of teaching mathematics for candidates for employment as teachers, 2 hours.  
 35. Geometrical analysis of surfaces of the second degree, 2 hours.  
 36. Synthetic geometry, after Steiner, 2 hours.  
 37. Theoretical astronomy, 2 hours.  
 38. Integral calculus, 3 hours; Monday and Wednesday, 10 to 11; and 1 hour not yet fixed.  
 39. Elementary mathematics, including the branches detailed in the programme for 1856-7, (in French,) 6 hours.  
 40. Political arithmetic, (interest, rent, savings' banks, banks,) &c., 2 hours; (in German or French.)  
 41. Mechanics, 6 hours; Monday, Wednesday and Saturday, 8 to 10.

c. *Literary, Moral and Political Science.*—42. "Faust" of Goethe, 2 hours; Wednesday and Friday, 4 to 5.  
 43. "Parcival" of Wolfram von Escheuback and "Tristan" of Gottfried von Strassburg, 2 to 3 hours; Tuesday, Thursday and Saturday, 4 to 5.  
 (The same instructor, (Prof. Vischer,) will give a course of instruction at the university, in aesthetics, part first, 4 to 5 hours.)  
 44. French literature, 3 hours; Tuesday, Thursday and Saturday, 4 to 5.  
 45. Italian literature, 3 hours; Tuesday, Thursday, Friday, 6 to 7.  
 46. Italian composition, 1 hour; Thursday, 5 to 6.  
 47. History of English literature from end of last century to present time, 2 hours; Tuesday and Thursday, 6 to 7.  
 48. Shakespeare's "Timon of Athens," and "Love's Labors Lost," translated and expained, 2 hours; Monday and Wednesday, 6 to 7.  
 49. Exercises in speaking and writing English, 2 hours; Monday, 5 to 6; and Friday, 6 to 7.  
 50. General modern history, with special reference to intellectual developments, 3 hours; Monday to Friday.  
 51. Sources of Roman History, 2 hours; Saturday, 9 to 11.  
 52. Art of building in the middle ages and the *Renaissance*; and as introductory, a general view of the art of building among the ancients, 4 hours; Tuesday and Friday, 5 to 7.  
 53. General views of the history of the *Renaissance*, 4 hours; Monday, Wednesday, Thursday and Saturday, 5 to 6.  
 54. History of painting and sculpture since the fifteenth century, 4 hours; Monday, Tuesday and Thursday, 11 to 12; Saturday, 6 to 7.  
 55. Archaeology of Christian Art, 2 hours.  
 56. Classic and German mythology, 2 hours.  
 57. Greek anthology, 2 hours.  
 58. Political economy, 3 hours; Monday, Wednesday and Friday, 6 to 7.  
 59. International law, 2 hours; Tuesday and Thursday, 6 to 7.  
 60. Commercial law, 3 hours; Monday, Wednesday and Friday, 4 to 5.  
 61. Forestry laws, 1 hour; Tuesday, 3 to 4.

d. *Fine Arts.*—62. Landscape drawing, 4 hours; Thursday and Friday, 2 to 4.  
 63. Drawing the figure, after copies and models; Monday, Tuesday and Thursday, 2 to 4.

64. Modeling in earth and plaster, for students in architecture and engineering, 2 afternoons; Monday and Saturday, 1 to 4.

65. Designing ornaments for buildings, furniture, and other productions of arts and trades, 4 hours; Monday and Tuesday, 10 to 12.

Instruction in German will be given, if thought necessary.

#### APPARATUS, ETC., FOR INSTRUCTION.

a. *Collections*.—During the year 1855-6 collections have been commenced, and carried to a point nearly as follows:—

*For drawing the figure*.—Parts of the body, and entire figures. Simple outlines, and shaded designs after the different methods of Julien and Volpats. Models by Albin and Mart. Fischer, for instruction in plastic anatomy. A prepared human skeleton. Busts and detached portions of the body in plaster, mostly after the antique.

*For landscape drawing*.—Lithographs of Calame; studies by the professor.

*For architectural drawing*.—Including constructions in wood and stone and architectural decoration, by different masters. (See below, under *Library*.)

*Models of construction*.—Collection of pieces of wood; models of roofs, mostly after Moller; various arches for doorways; all from the establishment of Schroeder at Darmstadt. This collection will be completed as soon as possible, from the rooms for working in wood and for making models.

*Plaster models of architectural ornaments*.—Capitals and bases of antique columns, and other portions of monuments of antiquity, mostly from the archaeological collections of Paris.

*Instruments for land surveying*.—Large instruments for measuring angles; including, a repeating theodolite and another smaller theodolite, by Brunner of Paris; five leveling instruments, from Ertel of Munich, Starke of Vienna, Kinzelbach of Stuttgart, and Goldschmidt of Zürich; four surveyor's tables; and other instruments, by Goldschmidt of Zürich and other Swiss makers.

*For drawing plans*.—Designs, partly by Prof. Bardin, of the Polytechnic School at Paris, but principally by Prof. Wild.

*Astronomy*.—Various small instruments which have been used during the summer for the practical exercises carried on in the small observatory at Zürich, which has been temporarily put in order for the purpose.

*Machines*.—Models for the transformation of motion, from Prof. Walter of Augsburg. (Engrenages,) by Schroeder of Darmstadt. Models of turbine wheels on a large scale, and section models of steam-engines, are being constructed in the work-rooms of the school.

There is a Weissbach's hydraulic apparatus, with its accessories, for instruction in mechanics.

*Library*.—During the year which is all that has elapsed since the foundation of the library, there have been collected about 2,000 volumes, most of them upon the various mathematical and applied sciences taught in the school, and of which a small number appertain specially to the sixth division. One set of works with copperplates, on the art of building, is of great value.

In the reading-room are to be found thirty journals, mostly technical and mathematical, but some upon other sciences.

The library was opened January 27, 1856, since which time have been given 610 discharges of receipts for books taken home. Besides most of the professors, 62 pupils of the polytechnic school have made use of the library.

There are at Zürich collections in natural history, an archaeological collection, a library for natural history, and another for the sciences; to all of which pupils can have access.

b. *Scientific and Technical Departments*.—*Chemical laboratory for analysis*.—This is arranged for practical men, and well provided with all the necessary apparatus. Two afternoons are employed in the obligatory practice of the regular pupils, to whom the laboratory is always open at other times. During the first term, 11 regular scholars and 14 attendants on lectures made use of it, and during the last term, 11 of the former and 10 of the latter.

*Laboratory of chemistry for technical and pharmaceutical operations.*—This, after some small changes shortly to be made, is calculated for sixteen practicing scholars. Some large apparatuses necessary in a technical laboratory have not yet been erected, on account of want of room; but there is a sufficient supply of other apparatus. The collection of articles for use in chemical instruction is already begun. This laboratory has been attended during the first term by two regular pupils and three attendants on lectures, and during the second, by two of the former and five of the latter. The operations performed by the regular pupils are adapted to their future employment.

*Cabinet of natural philosophy.*—The collection of instruments of natural philosophy has been hitherto provided with instruments chiefly coming from the manufacturers of Paris and Berlin. The Regnault's steam apparatus is by Galaz, the thermometrical apparatus, by Fosteé, the optical apparatus by Duboscq, of Paris, and all the electrical apparatus from Berlin. Various instruments have been procured, also, from other German or Parisian manufacturers. During the lessons, use has also been made of the apparatus belonging to the canton of Zürich, which are deposited in the same place.

Convenient accommodations are yet wanting for exact physical experiments and large operations.

*Workshop for making models in metals.*—During the first term, fifteen regular pupils and 1 attendant on lectures have been employed here, and the same number during the second. It contains ten vices, with the instruments belonging to them; but those which are least used are fewest in number. One vice, with a more complete set of tools, is appropriated to the adjoint professor in charge, and each of the others is used during one term by a set of pupils who use it alternately. Each vice, and the tools belonging to it, are designated by a certain number. The most important large instruments in this workshop are, a lathe for turning metals, arranged also for cutting screws; a hand machine for planing metals; a boring machine, shears, &c.; a forge with a small ventilating blast on the American plan, to work by hand, with anvils, tongs, and the whole apparatus of a complete small forge.

*Workshop for models in wood.*—This was used during the first term by seven regular pupils and three attendants of lectures, and during the second by five of the former and two of the latter. It contains five carpenter's benches with their fittings, one of which is set apart for the adjoint professor, and the others are used by the pupils. There is also a turning-lathe for wood with the tools. The vices and benches are numbered, and the tools belonging to each has the same.

As almost all the pupils who have been at work here during the current year has had no previous practice, the first months were occupied in teaching them how to handle the tools. In the workshop for metals they filed cubes, and in that for wood, learned to use the principal tools. Afterwards they were set to construct models of machinery; and in the former of the shops the pupils have been made to do as much as was possible, the instructor only putting on the finishing touch.

The models completed are as follows:—

1. Section model of locomotive cut-off, with Stephenson's (coulisse).
2. Section model of locomotive cut-off, on Gooch's plan.
3. Diagram showing the excellences of the different locomotive cut-offs.

There is, not yet completed, a locomotive cut-off on the plan of Heusinger of Waldegg.

In the workroom for wood, except a model of a roof by a pupil who had practiced before, no large model has been made; the pupils have been altogether employed in making presses for their tools. Both pupils and teacher have had to employ much time in finishing off their workroom, and preparing it for use, and to construct (especially the teacher) a large supply of simple tools: and the same is the case in the workroom for metals.

During the coming year, in which the number of pupils will constantly increase, the directors will endeavor to have constructed various small machines for the collections, and especially models which may be used in the course of instruction; and will endeavor to make all the scholars assist in this design, each according to his capacity.

The instructors in charge of the work will use all their time, outside of the hours of instruction, in the workshop and in finishing difficult models.

*Workshop for modeling in earth and plaster.*—There have been prepared plaster models of stonework, to a given scale, according to the theoretical course in stone-cutting, and also architectural ornaments and parts of the body modeled in earth and afterwards molded in plaster. The workshop, besides the pupils regularly employed in it, has been used during the first term by nine others, and during the second by three. Most of these others were obliged during the latter term to return to their own practical vocations. The professor (the sculptor, M. Reiser,) does all his own work, whether in earth, plaster or marble, in the shop before the pupils, so that they are enabled to learn the technical execution of such work, and at the same time form their taste.

All these workshops have been open to the pupils during the whole day, excepting hours of instruction, and the masters have been constantly present.

#### METHOD PURSUED IN INSTRUCTION.

The instruction in the studies obligatory upon each division has consisted partly of drills (*répétitions*,) exercises and practical demonstrations in the course of technical and scientific excursions.

Regular drilling exercises have been arranged, especially in the departments relative to mathematical and natural science. During most of these, as those in pure mathematics, descriptive geometry, mechanics, &c., numerous problems have been proposed in the course of the year, whose solution has in part been required of the pupils within a given time, in part left to their option, or examined by the professor and discussed with the pupils.

Among practical exercises, intended almost exclusively to stimulate the individual faculties of the pupils, are; those in design and construction, of the pupils of the schools of architecture, civil engineering and industrial mechanism; those in land-measuring, of the first year of the school of engineers, in which a whole day per week is employed; the manipulations in the analytical and technical laboratories; and the work in the shops. Pains have been taken to induce the pupils to spend most of their time not occupied in lessons, in the drawing-rooms, laboratories and workshops, and to consider them their own habitual places of labor.

But great hindrances to this plan have arisen from the great distance apart of the various departments of the school, which causes the loss of much time in the frequent comings and goings of the pupils, and from the fact that the timetable for study has not been arranged in a manner entirely satisfactory.

Excursions have from the first been regularly made with the pupils in the school of forestry, in the forests near Zürich. Prof. Marchand also took his pupils to the meeting of the Society of Swiss Foresters, which was held this year at St. Gall, that they might hear the discussions. Prof. Heer, has also regularly made short excursions, besides one long one, for the sake of instruction in botany. The pupils of the second year in the school of engineering have visited, under the direction of Prof. Calmann, besides the bridges near Zürich, the iron bridge over the Sitter near St. Gall, of which last they took drawings and measures in sufficient detail to enable them to execute, in the drawing-rooms, complete designs of that interesting work. The thanks of the institution are here offered to the engineers employed there, for their kind attentions to the professor and to his pupils.

A long excursion with a view to chemical and mechanical studies was undertaken by Profs. Bolley and Reuleaux, with the pupils of their divisions. They visited various places near the Rhine and above Basle, and returned by way of Basle and Aaran. In the course of this trip the pupils were enabled to examine a furnace and set of trip-hammers, a tin-work, a rolling-mill, a salt-work, a wood-gaswork, which was especially interesting to the pupils, as one had also been recently constructed at Zürich. They also examined a cement-kiln, a manufactory of chemicals, one of printed goods, silk spinneries, &c. The proprietors of these establishments, with a politeness which deserves our acknowledgements, allowed us to take many drawings in them.

A measure similar to that adopted by several other industrial institutions, is the establishment of monthly competitions at prescribed tasks. The regulations for these are contained in the annual programme.

## PROGRAMME FOR 1867-68—SIXTY-TWO PROFESSORS.

## SUBJECTS OF INSTRUCTION, CLASSED BY DIVISIONS.

FIRST DIVISION, OR SCHOOL OF ARCHITECTURE. (*Course three years.*)

*First Year.*—Differential and integral calculus; Descriptive geometry; Construction of buildings, (2 courses;) Architectural design; detailed drawings of plans of buildings; Designing the figure; Ornamental drawing; Landscape drawing; Theory of contacts and intersections of curved surfaces, stone cutting; History of ancient art; Modeling in clay and plaster; Experimental chemistry.

*Second Year.*—Art of building (2 courses,) embracing art of building civil edifices in middle ages and in modern times; Practical exercises in building; Theory of shadows and perspective; Mechanics, theory of machines; Construction of bridges and roads; Drawing of figures; Construction of arches and vaults.

*Third Year.*—Practical exercises in building; Ornamental drawing; Technical geology; Law concerning buildings; Chemical technology; Lithology, with practical exercises.

## SECOND DIVISION, OR SCHOOL OF CIVIL ENGINEERING.

*First Year.*—Differential and integral calculus (2 courses;) Descriptive geometry; Art of building and drawing; Drawing of plans; Experimental physics; Experimental chemistry.

*Second Year.*—Theory of differential equations; Differential and integral calculus; Industrial mechanics; Geometry of position; Theory of shadows and perspective; Technical geology; Topography, drawing of charts; Description of machines and drawing of plans.

*Third Year.*—Theory of machines; Astronomy; Geodesy; Construction of bridges and rail-roads, with designs; Administrative law; Drawing of maps; Construction of iron frame-works; Technology of building material; Astronomy, with exercises in the observatory; Practical and theoretical surveying; Lithology.

## THIRD DIVISION, OR SCHOOL OF INDUSTRIAL MECHANICS.

*First Year.*—Differential and integral calculus (2 courses;) Descriptive geometry, with exercises; Analytical geometry of surfaces, with exercises; Drawing and designing of machines; Experimental physics applied to mechanics; Experimental chemistry.

*Second Year.*—Theory of differential equations; Differential and integral calculus; Industrial mechanics; Art of constructing machines (2 courses;) Selected portions of the same art; Technology of mechanics; Science of motion.

*Third Year.*—Theory of machines; Construction of models in wood; Construction of models in metal; Regulators; Metallurgy; Technology of building material.

## FOURTH DIVISION, OR SCHOOL OF INDUSTRIAL CHEMISTRY.

*First Year.*—Inorganic chemistry; Organic chemistry; Selected portions of organic chemistry; Experimental physics; Manufacture of chemicals; Glass and pottery; Description of machines; Mineralogy; Elements of general botany; Geology; Industrial drawing; Chemical analysis in the laboratory; Zoölogy; Chemical experimentation applied to industrial arts.

*Second Year.*—Bleaching, dyeing and printing of tissues; Practical manipulations in the laboratory; Technology of machines; Crystallography applied; Practical geology; Industrial chemistry; Industrial drawing; Analysis in the laboratory.

*Third Year.*—Organic experimental chemistry; Analytical chemistry; Metallurgy; Chemical technology of building material; Special botany; Classification of minerals, with exercises; Heating and lighting of buildings; Food and nutrition; Pharmaceutical chemistry for druggists and apothecaries; Pharmaceutical botany; Pharmaceutical chemistry; Technical portion of pharmacy; Raw materials pharmaceutically considered; Manipulation in the laboratory of pharmaceutical chemistry; Toxicology.

**FIFTH DIVISION, OR SCHOOL OF FORESTRY. (2 years' course.)**

*First Year.*—Mathematics in reference to practical uses in forest culture; Botany; Topography; Drawing of plans; Science of managing forests; Excursions and exercises in valuation; Experimental chemistry; Law concerning forests; Mineralogy; Geology; Zoölogy.

*Second Year.*—Exploration of forests; Preservation and utilization of forests; Management of forests by the state; Statistics and literature of forestry; Climates and soils applied to forestry; Technical geology; Construction of bridges and roads; Administrative law and police; Botany and entomology applied to forestry; Agricultural chemistry; Lithology; Practical surveying; Industrial physics.

**SIXTH DIVISION, OR NORMAL SCHOOL OF MATHEMATICS AND NATURAL SCIENCE.**

*Section a. Mathematics.*

*First Year.*—Differential and integral calculus; Analytical and plain geometry, with practical exercises; Introduction to analytical geometry; Analytical geometry, with practical exercises; Experimental physics applied to arts.

*Second and Third Year.*—Theory of differential equations; Theory of functions; Geometry of position, with practical exercises; Astronomy; Selected portions of higher astronomy, with exercises; Technical mechanics; Theory of life insurances; Analytical mechanics; Mathematical theory of gravitation, of electricity and magnetism; Physical geography; Mensuration of bodies.

*Section b. Natural Sciences.*

*First Year.*—Practical and analytical chemistry; Selected portions of inorganic experimental chemistry; Mineralogy; General botany; Zoölogy.

*Second Year.*—Praxis in industrial chemistry; Crystallography applied; Microscopical exercises; Mensuration of bodies; General geology; Antediluvian plants and fossil insects.

**SEVENTH DIVISION, OR SCHOOL OF LITERATURE, MORAL SCIENCES AND POLITICAL ECONOMY**

*a. Natural Sciences.*—Experimental physics; Microscopical exercises; General botany; Physical geography; Geology; Zoölogy; Pharmaceutical botany; Fossil plants; Fossil insects; Mineralogy; Compounds of cyanogen; Polyatomic alcohols; Essential oils and aromatic compounds in general; Palaeontology; Geology of sedimentary formations; Pharmaceutical chemistry; Toxicology; Selected portions of experimental chemistry; Fossils characteristic of the geological formations of Switzerland; Physical chemistry; Stoichiometry; Analytical chemistry, qualitative and quantitative; History of chemistry; Reputations of organic chemistry.

*b. Mathematical Sciences.*—Elementary astronomy; Theory of life-insurances; Theory of surfaces of the second degree; Elements of differential and integral calculus; Exercises in differential calculus; Exercises in industrial mechanics; Analytical mechanics; Mathematical theory of gravitation; Light, electricity and galvanism; Determinants; Higher mechanics; Political arithmetic, (interest, rent, savings banks.)

*c. Languages and Literature.*—History of ancient German literature to the end of the 17th century; Exercises in oratory; History of literature; Molière and his time; Lecture on and explanation of the *Cid of Corneille*; Lecture on and explanation of chosen pieces from the *Lettres Persanes de Montesquieu*;

Exercises in the French language; History of English literature; English novels; Shakspeare's Julius Cæsar; Exercises in the English language; *La commedia dell' arte in Italia e fuori d'Italia; La poesia ispiratrice di Raffaello e del Correggio; Exercises in the Italian language.*

*d. History, Moral Sciences and Political Economy.*—History of the time of Frederick the Great and the French revolution; Sixteen characters of universal history—Pericles, Demosthenes, Alexander the Great, Hannibal, Cato junior, Tiberius, Attila, Mahomed, Charlemagne, Gregory the Seventh, Johanna of Arc, Richelieu, Cromwell, Peter the Great, Washington, Cavour; General theory of political economy; Commerce of the world from the foundation of the United States of America up to the present time; Exposition and discussions on questions of political economy; History of ancient art; History of modern painting since the introduction of oil-colors; Commercial law; Political economy; Critical studies of the doctrines of socialists and of reformists; Elementary course of international law; Laws of the Swiss confederation; History of Switzerland under the Helvetic republic; The British empire in the five divisions of the globe; History of geography (2 courses;) Introduction to geography, industry and commerce; Explanation of the sculptures in the museum of archaeology.

*e. Fine Arts.*—Drawing of ornaments and decorations in the interior of buildings; Landscape drawing; Drawing of heads and figures from models; Modeling; Theory of harmony.

**EIGHTH DIVISION—PREPARATORY COURSE OF MATHEMATICS TAUGHT BOTH IN FRENCH AND GERMAN; MODERN LANGUAGES.**

Algebra; Geometry of space and plane trigonometry; Elements of descriptive geometry; Practical geometry; Experimental physics; Experimental chemistry; Instruction in German; Instruction in French.

NATIONAL DEPARTMENT OF EDUCATION.

The undersigned desires to obtain, as early as practicable, accurate but condensed information of the designation, history, and present condition of every Institution and Agency of Education in the United States, and of the name, residence, and special work of every person in the administration, instruction, and management of the same. Any response to this Circular in reference to any Institution, Agency, or subject included in the following Schedule, addressed to the *Department of Education, Washington, D. C.*, and indorsed "official," is entitled, by direction of the Postmaster General, to be conveyed by mail *free* of postage, and will be thankfully received by

HENRY BARNARD,

*Commissioner of Education, Washington, D. C.*

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SCHEDULE OF INFORMATION SOUGHT RESPECTING SYSTEMS, INSTITUTIONS, AND AGENCIES OF EDUCATION.

**A. General Condition,** (of *District, Village, City, County, State.*)

Territorial Extent, Municipal Organization, Population, Valuation, Receipts, and Expenditures for all public purposes.

**B. System of Public Instruction.**

**C. Incorporated Institutions, and other Schools and Agencies of Education.**

**I. ELEMENTARY OR PRIMARY EDUCATION.**

(Public, Private, and Denominational; and for boys or girls.)

**II. ACADEMIC OR SECONDARY EDUCATION.**

(Institutions mainly devoted to studies not taught in the Elementary Schools, and to preparation for College or Special Schools.)

**III. COLLEGIATE OR SUPERIOR EDUCATION.**

(Institutions entitled by law to grant the degree of Bachelor of Arts or Science.)

**IV. PROFESSIONAL, SPECIAL, OR CLASS EDUCATION.**

(Institutions having special studies and training, such as—1. Theology. 2. Law. 3. Medicine. 4. Teaching. 5. Agriculture. 6. Architecture, (Design and Construction.) 7. Technology—Polytechnic. 8. Engineering, (Civil or Mechanical.) 9. War, (on land or sea.) 10. Business or Trade. 11. Navigation. 12. Mining and Metallurgy. 13. Drawing and Painting. 14. Music. 15. Deaf-mutes. 16. Blind. 17. Idiotic. 18. Juvenile offenders. 19. Orphans. 20. Girls. 21. Colored or Freedmen. 22. Manual or Industrial. 23. *Not specified above*—such as Chemistry and its applications—Modern Languages—Natural History and Geology—Steam and its application,—Pharmacy—Veterinary Surgery, &c.)

**V. SUPPLEMENTARY EDUCATION.**

1. Sunday and Mission Schools. 2. Apprentice Schools. 3. Evening Schools. 4. Courses of Lectures. 5. Lyceums for Debates. 6. Reading Rooms—Periodicals. 7. Libraries of Reference or Circulation. 8. Gymnasiums, Boat and Ball Clubs, and other Athletic Exercises. 9. Public Gardens, Parks and Concerts. 10. *Not specified above.*

**VI. SOCIETIES, INSTITUTES, MUSEUMS, CABINETS, AND GALLERIES FOR THE ADVANCEMENT OF EDUCATION, SCIENCE, LITERATURE, AND THE ARTS.**

**VII. EDUCATIONAL AND OTHER PERIODICALS.**

**VIII. SCHOOL FUNDS AND EDUCATIONAL BEFRACTIONS.**

**IX. LEGISLATION (STATE OR MUNICIPAL) RESPECTING EDUCATION.**

**X. SCHOOL ARCHITECTURE.**

**XI. PENAL AND CHARITABLE INSTITUTIONS.**

**XII. CHURCHES AND OTHER AGENCIES OF RELIGIOUS INSTRUCTION.**

**XIII. REPORTS AND OTHER PUBLICATIONS ON SCHOOLS AND EDUCATION.**

**XIV. MEMOIRS OF TEACHERS, AND PROMOTERS OF EDUCATION.**

**XV. EXAMINATIONS (COMPETITIVE, OR OTHERWISE) FOR ADMISSION TO NATIONAL OR STATE SCHOOLS, OR TO PUBLIC SERVICE OF ANY KIND.**

## VII. THE PHILOSOPHY AND METHOD OF TEACHING

PURSUED AT THE WESTFIELD STATE NORMAL SCHOOL.

BY J. W. DICKINSON, A. M., PRINCIPAL.

### 1. THE PHILOSOPHY OF TEACHING.

If the mind is led to act in accordance with the laws of its nature, it will acquire the inclination and the ability to obey these laws. That state of the mind in which it has the inclination and the ability to obey the laws of its nature, is called Education; and the mind possessing this state, is said to be educated.

This definition of Education makes it a state of the mind and not a process. There is but one process by which the mind can be changed from one state to another, and that process is found in the mind's own activity.

By mental activity, knowledge is acquired, and the knowledge in turn excites activity, but it is activity only that produces a change in the powers that act.

As knowledge is both the product and the occasion of mental activity, knowledge seems to combine with mental activity in producing the state called Education.

That which produces a thing is the cause of that thing; then the cause of education is knowledge and mental activity. The cause of education is also called Instruction.

The term Instruction is sometimes used to signify knowledge, and sometimes to signify the process by which the teacher leads his pupils to acquire knowledge.

The word Instruction means to build within, and may well be limited in its application to mental activity and knowledge, which we have shown build up to perfection the mind itself.

It is the duty of the teacher to present in a right manner to the mind, objects and subjects which he desires to be the occasion of mental activity and knowledge.

The process of presenting occasions is Teaching.

The relations that Education, Instruction, and Teaching, hold to one another, are these: Instruction is the cause of Education, and Teaching is the occasion of Instruction.

Teaching must have for its object one of two ends, Knowledge or Education.

Knowledge as an end is valueless; then, the end towards which all intelligent teaching directs its attention, is Education.

If Education is the end the teacher should lead his pupil to attain, and if mental activity is the primary cause of Education, the teacher must provide right occasions for a complete and perfect mental activity. The ability to do this implies a knowledge of the ways in which the mind acts.

The modes, or ways of mental action, are three; thinking, feeling and choosing.

The mind thinking is called the Intellect: the mind feeling is called the Sensibilities; the mind choosing is called the Will.

The activity of the sensibilities is the result of thinking; the activity of the will is the result of feeling,—therefore, the teacher turns his attention primarily to the activity of the Intellect.

Every Intellectual act is an act of comparison.

The Intellect compares for perceptions, for general notions, for judgments, and for reasoning.

The teacher must present to the minds of the pupils, as occasions for these different acts of comparison, subjects and objects, named in proper order, for a *course of study*.

The course of study is divided into two courses: the one being an Elementary, the other a Scientific course.

In the Elementary course, the mind is excited to activity in acquiring a knowledge of facts.

This knowledge of facts is to be used as the occasion of Scientific knowledge.

A complete and perfect course of study, will name objects and subjects sufficient in number, and of the right kind, to guide the teacher in presenting occasions to the minds of his pupils, for making all kinds of comparisons; for comparing all kinds of objects; for comparing all kinds of relations, and for making the comparisons in the order, and in the manner required by the mind, as its powers are developed.

These are the principles which constitute the philosophy of teaching.

## 2. MODE OF TEACHING.

There are two ways of teaching. One way consists in presenting objects and subjects first as wholes, for general knowledge, then the parts and their relations for particular knowledge. The other way consists in first presenting parts of things, and the relations of the parts, for particular knowledge, then the whole made up of these parts and of their relations, for general knowledge.

These two ways of teaching are called Modes, or Methods. The first method is called the Analytic, the second the Synthetic method.

A synthetic method of study is impossible; as a method of teaching it is faulty for two reasons:

1st. The application of the method requires the teacher to present as occasions for mental activity and knowledge, parts of wholes, not as parts, but as independent individual things, that are not seen to hold any rela-

tion to the wholes of which they are parts, until the relation has been established by the teacher.

2d. The method requires the teacher to do the work that belongs to the student.

The application of the Analytic method requires the teacher to assign lessons for study, by the use of topics made out according to the following rules :

1st. The objects and subjects to be presented for study, should be of such a kind as are adapted to call into exercise the powers of the mind in accordance with the time and order of the development of these powers.

2d. The first topics assigned should be those that lead the pupil to study for Elementary knowledge.

3d. The first topic in any study should require the pupil to search for a general knowledge of the object or subject of study.

4th. The minor topics should present the parts of objects in a natural order, and of subjects in a logical order, and require the pupil to study for particular knowledge.

5th. The topics should lead the pupil to exhaust the subject.

Language is not to be considered the primary source of knowledge, but the mind is to be made conscious of having the ideas and thoughts to be expressed by the language used, before the language is employed.

This is done by actually bringing into the presence of the mind the object of study.

It is the duty of the teacher to excite the minds of his pupils to such mental activity as will lead to the state called Education, by bringing into their presence, in a right manner, the thing to be studied, and by guiding them to a knowledge of the facts and truths he would have them know.

All lessons are to be taught orally by the teacher, in such a manner that he will do nothing except furnish an occasion for knowledge.

The pupil should acquire the knowledge by his own mental activity.

The lesson thus taught will furnish for the pupil topics properly arranged for study, and a knowledge of the topics sufficient to enable him to continue to study them intelligently and profitably.

Text-books may be put into the hands of the pupils to be used as reference books. As text-books are sometimes used, they take away the possibility of independent mental activity on the part of both teacher and pupil.

The pupil having prepared his lesson, is to recite before the class upon the topic or topics, assigned at the time by the teacher.

He is to develop, without questions by the teacher, the topics assigned him, illustrating carefully the ideas and thoughts he expresses in words, before the expressions are made, observing to follow the same Analytic method in recitation that was observed by the teacher in assigning the topics, and by himself in studying them.

Both the teacher and the class are to observe carefully the pupil reciting, with reference to his knowledge, and his mode of teaching or reciting.

After the pupil has completed his recitation, the teacher and pupils may make criticisms, for the purpose of correcting mistakes, and for calling attention to new truth.

The pupil should be permitted, and even required, to use his active powers in obtaining knowledge, as well as his passive powers in receiving it.

The teacher should be constantly aware of the nature of his work, and of the end to be secured, and of the relation the means he employs holds to that end.

Successful teaching implies the existence of a course of study that is adapted to the wants of the mind as its powers are developed. It requires the employment of the right method in applying this course, and the presence of a teacher who understands the philosophy of his work.

The teacher must be supplied with all external means necessary for his teaching, and with the cordial sympathy of all in authority over him, and then he can so apply his philosophical method as to obtain a better and higher result than the schools have yet known.

## VIII. COEDUCATION OF THE SEXES.

AN ADDRESS BEFORE A MEETING OF COLLEGE PRESIDENTS AT SPRINGFIELD, ILL.

BY REV. JAMES H. FAIRCHILD, D. D., OF OBERLIN COLLEGE, JULY 10TH, 1857.

MR. PRESIDENT, AND GENTLEMEN OF THE ASSOCIATION:

THE invitation extended to me by your Executive Committee, to share in your deliberations upon this question, was based upon the fact of my connection with a school in which the system of education under discussion has been in operation for many years; and it was intended that I should present the subject in the light of that experience. It seems more fitting to confine myself to arrangements and results at Oberlin, stated descriptively and historically, than to attempt any general discussion of the subject—a work more appropriate to the members of the Association.

That I may speak without restraint upon these matters, it is proper for me to say that I entered the College as a boy at its opening, and served seven years as a pupil before entering upon the responsibilities of a member of its board of instruction. Thus I appear before you as one of the children of the school, and not one of the fathers, and shall not seem to speak of the work of my own hands, as I claim no personal responsibility for the wisdom or folly of the arrangement.

Oberlin College is now in the thirty-fourth year of its life, and from the beginning has embraced among its pupils both young men and young women. The first year it was a high school, with something over a hundred pupils, more than one-third of whom were ladies: not a local school, for the enterprise started in the woods, and one-half of the students at least were from New England and New York. The second year the numbers increased to nearly 300, with theological and college classes in full operation, the ladies being about one-fourth of the whole. In two or three years the numbers reached 500, and maintained that annual average until 1852, when the number was suddenly doubled, and has averaged more than a thousand yearly for the last fifteen years. The proportion of young ladies has not for many years fallen below one-third, nor risen above one-half, except during the war, when the ladies predominated in the ratio of five to four. The last Annual Catalogue gives 655

gentlemen and 490 ladies, and this is about the normal proportion. These are young men and women of such ages as the advanced schools of the land generally present.

The *town* began with the school and has kept pace with it, containing at present from 3,000 to 4,000 inhabitants. At first, almost all the accommodations for the students in room and board were furnished by the College. The dormitory system was adopted for both young men and young women, separate halls or buildings being assigned to each—the ladies' hall being also a boarding-hall, in which seats at table were provided for young men. As the numbers increased and the dwellings in the village were improved and multiplied, the students were to a greater extent provided for among the families, until at present far the greater number are thus furnished with homes. Our present ladies' hall affords rooms for about 100 young ladies, and sittings at table for about 220 boarders. Large boarding-houses are not found; but a majority of families that have room receive a few students. The young ladies find their homes under this arrangement as well as the young men. Some families receive young ladies only; but families are permitted, with suitable arrangements, to receive both classes. The entire female department is under the immediate charge of a lady Principal, and her assistant; and these are occupied, not with teaching, to any considerable extent, but with the care and supervision of the young ladies, their classification and general culture. These principals communicate, as occasion may require, with the matrons of the families where the young ladies board. The special discipline of the young ladies is committed to the lady Principal, assisted by a 'Ladies' Board of Managers,' composed in general of wives of professors in the college. The advice of the College Faculty is sometimes taken, but the young ladies do not come before them for special discipline. The regulations of the school, for both ladies and gentlemen, are intended to be addressed to the good sense and personal responsibility of the pupil. We have no monitors, but each one makes a weekly report of success or failure in the performance of prescribed duties: young ladies boarding in families have their report countersigned by the matron of the house, who is in a degree responsible for the conduct of her charge. The ladies' hall is the headquarters of the female department, where the Principal receives all the ladies for general instruction and for personal advice.

Throughout the literary departments the classes consist of young men and young women, taken indiscriminately, as their studies correspond. The larger numbers of both sexes are found in our Pre-

paratory Department—a department which embraces, besides those preparing for the regular courses, a large number that study for a more limited time. This department is under the charge of a gentleman Principal, whose strength is expended chiefly upon oversight, classification, and discipline, and an associate Professor of Languages, who gives himself to the teaching of the advanced classes in Latin and Greek. The other classes in this department are taught by successful pupils (gentlemen and ladies) from the higher departments. After the Preparatory Department, we have two courses open to young ladies—the 'Ladies' Course,' and the regular 'College Course.' The Ladies' Course is a course of four years, requiring, as conditions of entering, a good elementary English education, and a year's study of Latin. It embraces all the studies of the regular College course, omitting all the Greek and most of the Latin, omitting also the Differential and Integral Calculus, and adding lessons in French and Drawing, and some branches of natural science. Those pursuing this course recite with the college classes in the same studies. Separate classes are organized for the ladies in essay-writing until the commencement of the third year, when they are added to the Junior College class in this exercise. Their training in this department is limited to reading and writing, none of the ladies having any exercise in speaking. The great majority of our young ladies pursue this course, and it was supposed at the organization of the school that nothing farther would be required for them; but in 1837 four young ladies prepared themselves for the Freshman class, and were received upon their own petition. Since that time it has been understood that the College Course is open to young ladies, and we have always had more or less in the classes: sometimes the proportion of ladies to gentlemen in the course has been as high as one to four; at present it is one to ten. We have observed no special tendency to an increase in this proportion; for the last three years there has been a diminution. The ladies in this course are under the same general regulations and discipline as in the other course, and are responsible to the lady Principal. At the termination of their course they receive the regular degree in the Arts. Eighty-four ladies have received this degree, and three hundred and ninety-five have received the diploma of the Ladies' Course.

The Theological Department has never been opened to ladies, as regular members. Two young ladies attended upon all the exercises of the department through a three-years course, and were entered upon the Annual Catalogue as 'resident graduates pursuing the Theological course.' This was nearly twenty years ago, and we

have had no applications since. Doubtless the same privileges would be afforded as formerly.

The association of gentlemen and ladies out of the class-room is regulated as experience seems to require. They sit at the same table in families and in the Ladies' Hall. Young gentlemen call on ladies in a social way at the parlors of the Ladies' Hall and of private families, between the hour for tea and half-past seven in the winter, and eight o'clock in the summer. They walk in groups from one class-room to another, as convenience and their sense of propriety may dictate, with the help of a suggestion, if needed, from thoughtful and observing friends. Now and then the young ladies have permission to attend an evening lecture given under the auspices of the College, and in such case to accept the attendance of young men. No such association is permitted in the case of religious meetings. They do not ride or walk together beyond the limits of the village, except on a holyday, under special arrangements. There is no association of the sexes in literary societies, or other voluntary and independent organizations.

It seemed necessary to give this detail of arrangements, that the conditions upon which the solution of the problem has been conducted with us may be fully understood. In speaking of results, I wish to be understood as giving not merely my own individual judgment, but the unanimous opinion, so far as I understand it, of all who have had responsibility in connection with the school. If there has been any diversity of sentiment on the subject, it has been unknown to me. Others might choose different terms in which to express their opinions, but I shall endeavor to make no statement from which I suppose that any one of those that are or have been associated in this work would dissent.

Among the advantages which seem to be involved in the system, as we have observed its operation, are the following :

1. Economy of means and forces. The teaching force and other apparatus required in all the higher departments of study is made available to a larger number. In most Western Colleges the higher classes might be doubled without any detriment, and often with great advantage. Scarce any one of these schools has had larger classes than our own, and yet only once or twice have we had occasion to make two divisions in any college class, including the ladies pursuing the same study. In the preparatory department, classes must be multiplied on account of numbers; but in the higher departments of instruction, where the chief expense is involved, the expense is no greater on account of the presence of

ladies. If a separate establishment were attempted for ladies, affording the same advantages, the outlay in men and means would have to be duplicated; or, as would often happen, the force would have to be divided, and the advantages as well. Of course, if there were obvious disadvantages in the arrangement, the argument from economy would have essentially no weight. We must have the best system of higher education at any necessary cost.

2. Convenience to the patrons of the school. It has been a matter of interest with us to note the number of cases in which a brother is accompanied or followed by a sister, or a sister by a brother. I can not give exact statements upon this point; but it is an interesting and prominent feature in our operations. This is most convenient and wholesome; each is safer from the presence of the other; and the inducements to attend school, to the one or the other, are increased by the possibility of having each other's company. The want and tendency in this direction are shown in the fact that in the vicinity of every flourishing college, opened for young men only, a ladies' school, equally flourishing, is almost sure to be established, requiring afterward a good degree of vigilance to keep apart those who have thus naturally come together.

3. Another advantage we find in the wholesome incitements to study which the system affords. This is a want in all schools, provided for often by a marking and grading system involving a distribution of honors and prizes. An acknowledged defect in this plan, not to speak of any thing unwholesome in the spirit of rivalry which it induces, is in the fact that it appeals to comparatively few in a class. The honors are few, and the majority soon cease to strive for them. The social influence arising from the constitution of our classes operates continuously and almost equally upon all. Each desires for himself the best standing that he is capable of, and there is never a lack of motive to exertion.

It will be observed, too, that the stimulus is the same in kind as will operate in after life. The young man, going out into the world, does not leave behind him the forces that have helped him on. They are the ordinary forces of society, and require no new habits of thought or action in order to their effective operation. We have introduced a marking system into the recitation-room, pertaining solely to the performance there, and used for the information of teachers and guardians, and the pupil himself: not for the assignment of grade or distribution of honors, or for any publication whatsoever. We rely upon the natural love of a fair standing with teachers and associates as the supplement to the higher motives for exertion, and have not found it a vain reliance.

4. Again, the social culture which is incidental to the system is a matter of no small importance. To secure this the student does not need to make any expenditure of time, going out of his way, or leaving his proper work for the pleasure or improvement resulting from society. He finds himself naturally in the midst of it, and he adjusts himself to it instinctively. It influences his manners, his feeling, and his thought. He may be as little conscious of the sources of the influence as of the sunlight or the atmosphere; it will envelope him all the same, saving him from the excessive introversion, the morbid fancies, the moroseness, which sometimes arise in secluded study, giving him elasticity of spirits, and ease of movement, and refinement of character, not readily attained out of society. It seems desirable that our young men especially should enjoy these advantages during the period of their course of study, while the forces that form character work most efficiently.

5. Closely connected with this influence is the tendency to good order which we find in the system. The ease with which the discipline of so large a school is conducted has not ceased to be a matter of wonder to ourselves. One thousand students are gathered from every state in the Union, from every class in society, of every grade of culture—the great mass of them, indeed, bent on improvement, but numbers sent by anxious friends with the hope that they may be saved or recovered from wayward tendencies. Yet the disorders incident to such gatherings are essentially unknown among us. Our streets are as quiet by day and by night as in any other country town. There are individual cases of misdemeanor, especially among the new comers, and now and then one is informed that his probation has been unsatisfactory; but in the regularly organized classes of the College and Ladies' Departments, numbering from two to four hundred in constant attendance, the exclusions have not on the average exceeded one in five years, and in one instance a period of more than ten years elapsed without a single exclusion from these classes. This result we attribute greatly to the wholesome influence of the system of joint education. The student feels that his standing and character are of grave consequence to him, and he is predisposed to take a manly attitude in reference to the government and regulations of the school. An admonition in the presence of the students assembled in the chapel has always been more dreaded by an offender than a private dismissal. Offenses against propriety, that in a body of young men forming a separate community would seem to be trivial, change their aspect when the female element is added to the community; and

that better view adds greatly to the force of wholesome regulations. From the beginning, the use of tobacco has been prohibited to our students. In the presence of ladies the regulation has a force and significance that could not be otherwise secured, and has been maintained with a good degree of success. College tricks lose their wit and attractiveness in a community thus constituted. They are essentially unknown among us. There are no secret societies, and, so far as I know, there has been no tendency toward them. The relations of the classes to each other are comfortable and desirable. With a sufficient degree of class feeling to give unity and collective force, there is an entire absence of the antagonisms which sometimes appear in college life. It may be a mistake to attribute this fact in any degree to the social constitution of the school, but it seems to me to be a natural result. The general force of the society controls and limits the clannish tendency. We have had no difficulty in reference to conduct and manners in the college dining-hall. There has been an entire absence of the irregularities and roughnesses so often complained of in college commons.

6. Nor can it be reasonably doubted that the arrangement tends to good order and morality in the town outside of the school. Evils that might be tolerated, in the shape of drinking-saloons and other places of dissipation, if young men only were present, seem intolerable where ladies are gathered with them. The public sentiment requires their suppression. Of course, this influence alone would not be sufficient; but it increases and intensifies the moral forces of the place which withstand their introduction.

7. Another manifest advantage is in the relations of the school to the community—a cordial feeling of good will, and the absence of that antagonism between town and college which in general belongs to the history of universities and colleges. The absence of disorder in the school is the prime condition of this good feeling; but beyond this, the constitution of the school is so similar to that of the community that any conflict is unnatural: the usual occasion seems to be wanting.

8. It can hardly be doubted that young people educated under such conditions are kept in harmony with society at large, and are prepared to appreciate the responsibilities of life, and to enter upon its work. They will not lack sympathy with the popular feeling, or an apprehension of the common interests. They are naturally educated in relation with the work of life, and will not require a readjustment. This seems a matter of grave importance, and we can scarcely be mistaken as to the happy results attained. If we are

not utterly deceived by our position, our students naturally and readily find their work in the world, because they have been trained in sympathy with the world.

These are among the advantages of the system which have forced themselves upon our attention. The list might be extended and expanded; but you will wish especially to know whether we have not encountered disadvantages and difficulties which more than counterbalance these advantages, and you will properly require me to speak with all frankness upon those difficulties which are commonly apprehended.

1. Have young ladies the ability in mental vigor and bodily health to maintain a fair standing in a class with young men? Do they not operate as a check upon the progress of the class, and degrade the standard of scholarship? and do they not break down in health under a pressure which young men can sustain?

To this inquiry I answer, where there has been the same preparatory training, we find no difference in ability to maintain themselves in the recitation room. Under the circumstances, I shall be excused for referring to my own individual experience, which has been somewhat varied. The first eight years of my work as a teacher was in the department of the Ancient Languages—Latin, Greek, and Hebrew; the next eleven, in Mathematics, abstract and applied; the last eight, in Philosophical and Ethical studies. In all these studies my classes have included young women as well as young men, and I have never observed any difference between them in performance in the recitation. The strong and the weak scholars are equally distributed between the sexes.

In this statement I do not imply that I see no difference between the normal male and female mind as to taste for particular studies. I have no doubt of the existence of such differences; but they do not appear in the ability as pupils to comprehend and express the truth. A few days since, on a visit to the University of Michigan, I attended a recitation in Thucydides. So far as could be judged from a single exercise, in which there were many excellent performances, the daughter of the Professor of Greek, the only young lady under the wing of the University, led the class. But it did not strike me as an anomaly; I had often seen such things.

Nor is there any manifest inability on the part of young women to endure the required labor. A breaking down in health does not appear to be more frequent than with young men. We have not observed a more frequent interruption of study on this account; nor do our statistics show a greater draft upon the vital forces in

the case of those who have completed the full college course. Out of eighty-four young ladies who have graduated since 1841, seven have died—a proportion of one in twelve. Of three hundred and sixty-eight young men who have graduated since that date, thirty-four are dead, or a little more than one in eleven. Of these thirty-four young men, six fell in the war; and leaving those out, the proportion of deaths still remains one to thirteen. Taking the whole number of gentlemen graduates, omitting the Theological Department, we find the proportion of deaths one to nine and a-half; of ladies, one to twelve: and this in spite of the lower average expectation of life for women, as indicated in life insurance tables. The field is, of course, too narrow for perfectly conclusive results; but there is no occasion for special apprehension of failure of health to ladies from study.

2. But it is held by many that ladies need a course of study adapted to their nature and their prospective work, and that it must be undesirable to bring them under the same training with young men. The theory of our school has never been that men and women are alike in mental constitution, or that they naturally and properly occupy the same position in the work of life. The education furnished is general, not professional, designed to fit men and women for any position or work to which they may properly be called. Even in the full college curriculum it does not appear that there is any study that would not be helpful in the discipline and furniture of an educated lady. But only a small proportion of young ladies seeking an education will naturally require the full college course. It is not difficult to frame a suitable course parallel with the college course, made up substantially of studies selected from it, and diversified by the addition of the accomplishments supposed to be peculiarly adapted to female culture. Almost every Western college has a scientific course, involving these substantial elements. The best schools in the land for the education of ladies alone have the same course. We do not find that any peculiar style of teaching is required to adapt these studies to female culture. The womanly nature will appropriate the material to its own necessities under its own laws. Young men and women sit at the same table and partake of the same food, and we have no apprehension that the vital forces will fail to elaborate from the common material the osseous and fibrous and nervous tissues adapted to each frame and constitution. Except under pressure of great external violence, the female nature asserts itself by virtue of its own inherent laws. No education can make alike those whom God has made as unlike as men and women.

3. Yet apprehension is felt and expressed that character will deteriorate on one side or on the other; that young men will become frivolous or effeminate, and young women coarse and masculine. The more prevalent opinion seems to be that, while the arrangement may be desirable in its effect on young men, it will be damaging to young women. That young men should become trifling or effeminate, lose their manly attributes and character, from proper association with cultivated young women, is antecedently improbable, and false in fact. It is the natural atmosphere for the development of the higher qualities of manhood—magnanimity, generosity, true chivalry, earnestness. The animal man is kept subordinate, in the prevalence of these higher qualities. We have found it the surest way to make men of boys, and gentlemen of rowdies. It must be a very poor specimen of masculine human nature that is not helped by the association, and a very poor specimen of a woman that does not prove a helper. In my judgment, as the result of experience, the chances are better even for the poor specimen.

But, on the other hand, are not womanly delicacy and refinement of character endangered? Will not the young woman, pursuing her studies with young men, take on their manners and aspirations and aims, and be turned aside from the true ideal of womanly life and character? The thing is scarcely conceivable. The natural response of woman to the exhibition of manly traits is in the correlative qualities of gentleness, delicacy, and grace. It might better be questioned whether the finer shadings of female character can be developed without this natural stimulus. If you would transform a woman into an Amazon or virago, take her apart from well-constituted society, and train her in isolation to a disgust for men, and a rough self-reliance. You will probably fail even thus in your endeavor; but it is the only chance of success.

But it is my duty not to reason, but to speak from the limited historical view assigned me. You would know whether the result with us has been a large accession to the numbers of coarse, 'strong-minded' women, in the offensive sense of the word; and I say, without hesitation, that I do not know of a single instance of such a product as the result of our system of education. It is true that in our 'Triennial' are found the names of three somewhat distinguished lady lecturers, who are sometimes referred to as belonging to this class. They pursued their studies at Oberlin from four to five years in each case. But, whatever their present position and character may be, I have personal knowledge of the fact that they

came to us very mature in thought, with their views of life settled and their own plans and purposes determined and announced. Whatever help in their chosen life they derived from the advantages afforded them, they have never given us any credit for their more advanced views of woman's rights and duties. While avowing a radical dissent from those views, I can not forbear to say that I am happy to number these ladies among my friends, and to express my admiration of much that is noble and womanly in their character, and of their earnest but mistaken philanthropy.

To show that our system of education does not bewilder woman with a vain ambition, or tend to turn her aside from the work which God has impressed upon her entire constitution, I may state that of the eighty-four ladies that have taken the college course, twenty-seven only are unmarried. Of these twenty-seven, *four* died early, and of the remaining twenty-three, twenty are graduates of less than six years' standing. The statistics of the graduates of the Ladies' Course would give essentially the same result. There may be an apparent indelicacy, perhaps, in parading such private, domestic facts; but the importance of the question upon which they bear will vindicate the propriety.

4. But this view does not touch the exact point of the difficulty. It is in general admitted that the association of young men and women, under proper conditions, is elevating instead of degrading, but there is doubt whether bringing them together in a school provides for these proper associations. The wholesome association of the young requires the presence and influence of those who are mature and have experience and a sense of responsibility,—more of the family influence than can be secured in a large school. Is there not danger that young men and young women thus brought together in the critical period of life, when the distinctive social tendencies which draw the sexes toward each other seem to act with greatest intensity, will fail of that necessary regulative force and fall into undesirable and unprofitable relations? Will not such associations result in weak and foolish love affairs, and in such habits of communication and social life as lead to these and grow out of them.

It is not strange that such apprehensions are felt, nor would it be easy to give an *à priori* answer to such difficulties; but, if we may judge from our experience, the difficulties are without foundation. I have no hesitation in expressing the conviction that in the associations of our young people there is as little of this undesirable element as is found in any general society. The danger in this

direction results from excited imagination,—from the glowing exaggerations of youthful fancy; and the best remedy is to displace these fancies by every-day facts and realities. The young man shut out from the society of ladies, with the help of the high-wrought representations of life which poets and novelists afford, with only a distant vision of the reality, is the one who is in danger. The women whom he sees are glorified by his fancy, and are wrought into his day-dreams and night-dreams as beings of supernatural loveliness. It would be different if he met them day by day in the recitation-room, in a common encounter with an algebraic problem, or at the table sharing in the common want of bread and butter. There is still room for the fancy to work, but the materials for the picture are more reliable and enduring. Such association does not take all the romance out of life, but it gives as favorable conditions for sensible views and actions upon these delicate questions as can be afforded to human nature.

There is another danger to which the young man is exposed greater even than this of a too high-colored ideal of female character. It is too low an estimate, springing from his own sensual tendencies, and darkened by a dash of misanthropy which is one of the most common experiences of the young. Such an ideal degrades the one who indulges it, and mars his whole conception of life. No greater misfortune can befall a young man than to admit to his heart such a misconception. It can spring up only in an isolated life, apart from the society of the pure and the good. It is good for a young man to face the facts, and let his dreams go, whether bright or dark. In the presence of these facts, he will conceive and maintain a genuine respect for women as worthy of his confidence and regard, which will save him from amorous follies on the one side, and from a degrading misanthropy on the other. There may be, here and there, displays of these weaknesses of youth; and where are there not? Among hundreds of the young, such weak ones must be found; but if there is any more potent corrective than the public sentiment of such a company of young people of ordinary good sense, I have not been able to find it.

Of course there is room for the wisdom which comes from experience in regulating the associations of such a school. The danger seems to be in both extremes, of too great strictness and restraint and too great laxity, as in all forms of school discipline. Those who have observed the pressure against restrictions, where there is an attempt to prohibit intercourse, sometimes imagine that any letting-up would prove fatal to all order and propriety. They would

probably be surprised to find that the sense of propriety and self-respect of their pupils would prove a surer reliance than any artificial barriers imposed from without. On the other hand, it is important that the intercourse of the young people be regulated by such restrictions as the good sense of the community will justify—not minute and arbitrary, in an attempt to meet all deficiencies of taste and judgment, and forestall every conceivable impropriety, but comprehensive and suggestive, expanded as occasion may require in familiar and practical suggestions from principal or teacher. It is desirable that the intercourse of the school be easy and natural, not fettered at every step by some restriction. The government of our school would be impossible, except as approved and sustained by the great body of the pupils. It would be easy, but extremely unwise, to surrender this stronghold in the endeavor to fortify ourselves by artificial barriers.

The experience of the Friends in this country in the management of their schools is instructive. For many years they have had boarding-schools at the East and the West, to which they sent both their sons and their daughters, but intended to allow no association between them in the schools. They found the undertaking too great. Walls could not be built that would entirely separate them. Within two or three years the policy has been changed and the walls removed, and, as I am informed, with the happiest results. A regulated association becomes easy now which was impossible before.

5. But will not the young people form such acquaintances as will result, during their course of study or after they leave school, in matrimonial engagements? Undoubtedly they will; and if this is a fatal objection, the system must be pronounced a failure. The majority of young people form such acquaintances between the ages of sixteen and twenty-four, and these are the years devoted to a course of study. It would be a most unnatural state of things if such acquaintances should not be made in a school where young men and young women are gathered in large numbers; nor is it to be expected that marriage engagements even will not be formed more or less frequently. Now and then it may occur that parties will seem to have left school for the purpose of consummating such an engagement. The reasonable inquiry in the case is, whether such acquaintances and engagements can be made under circumstances more favorable to a wise and considerate adjustment, or more promising of a happy result. Are the circumstances such as naturally to promote hasty and ill-assorted marriages? If the sys-

tem were to stand or fall by this one test, its friends would have no occasion to apprehend the result.

6. But what security is there that positive immoralities may not at times occur, and startling scandals even, that shall shock the community and produce distrust of the system? Of course, such a thing might be; but it would scarce be logical to condemn the system on the ground of such possibilities or even actualities. The only pertinent inquiry is whether such immoralities are the more natural and frequent product of this than of other systems. Is the moral atmosphere of the best and most approved Eastern colleges perfectly free from every taint of impurity? Is the propriety of the best-ordered and most carefully-guarded female seminary not liable to be broken in upon by a sporadic offense of this character? Such liabilities go everywhere with fallen human nature; and it has not been shown that the monastic institutions of either ancient or modern times have afforded perfect security upon this point. There may have been a time when one such scandal in a school for joint education would have brought reproach upon the system and overwhelmed it with popular disgust. A generation of successful trial, under a sheltering Providence, should have won for it the impartial judgment which is the right of every system.

7. But is this method adapted to schools in general, or is the success attained at Oberlin due to peculiar features of the school and of the place, which can rarely be found or reproduced elsewhere? This idea is not an unnatural one, and is somewhat prevalent. It is true, we have been favored with some special advantages. The place and the school were founded together—a Christian enterprise, with a common aim. From the beginning, the great interest of the place has been the school. The religious earnestness, in which the enterprise had its birth, has been in some good degree maintained, securing a unity of interest and of action very rare in the history of schools and of communities. The habits of the community have in a good degree taken their shape from the necessities of the school, and there is a very general and hearty interest in all that pertains to its welfare. On the other hand, the village has increased until its population numbers nearly 4000—a population gathered from all parts of the country, with a colored element amounting perhaps to one-fifth of the whole, of every grade of culture and of want of culture, not in any proper sense a disturbing element, but precluding that perfect homogeneity of thought and life embraced in the popular idea of Oberlin society. Our students, too, have been so numerous as to preclude the possibility of the

close personal supervision attainable in a smaller school; and while we have had occasion to congratulate ourselves on their general character, their earnest endeavors after improvement and usefulness, still they are essentially like the pupils in other schools at the West between the parallels which embrace the New-England emigration, with the addition of the colored element, varying from five to seven per cent. of the whole.

The experiment was commenced, too, by those who had had no experience in such a school, who had to feel their way through the various questions involved in its organization and arrangement. Thus, with the special advantages of our position, there have been some special difficulties.

But the experiment at Oberlin, if the earliest, is by no means the only one. At least a score of schools have sprung up that have adopted essentially the same plan, and I have yet to learn that there has been any other than a uniform result in the convictions of those who have best understood these movements. There are doubtless advantages in entering upon the plan at the organization of a school instead of introducing it into a college already in existence. The usual style of college life, the traditional customs and habits of action and of thought, are not suited to a school where ladies are gathered as well, and the changes required might occasion difficulty at the outset, and peril the experiment. On this point I have no experience; but I have such confidence in the inherent vitality and adaptability of the system, that I should be entirely willing to see it subjected to this test.

In concluding this statement, permit me to say that I have no special call as an apostle or propagandist of this system of education. The opinions set forth are such as, with my limited experience, I am compelled to cherish, and when called upon, as now, I cheerfully express them.

## NOTE.

OBERLIN COLLEGE, and OBERLIN as a settlement or town, originated in the deep religious convictions of the founders of both, which had been awakened and confirmed in the "revivals" of 1830, and the few years following. The author of the plan of the "Collegiate Institute," on the manual labor system, and the "Covenant," under which a tract of land three miles square, and comprising about eight thousand acres, was purchased in Lorain County, at the low rate of one dollar and fifty cents per acre, was Rev. John J. Shipherd, while he was pastor of the Presbyterian church in Elyria in 1832. Associated with him, in public and private prayer and effort, was Mr. P. P. Stewart, a retired missionary among the Cherokees in Mississippi, then residing in Mr. Shipherd's family. The early colonists and students, deeply imbued with the religious spirit which the preachings of Rev. Charles Finney had awakened, entered on the enterprise with missionary zeal, "lamenting the degeneracy of the Church, and the deplorable condition of the perishing world, and ardently desirous of bringing both under the influence of the blessed gospel of peace" and "of glorifying God in doing good to men to the extent of their ability." Assuming the name of the French pastor and educator of the retired parish of Walbach, in the Ban de la Roche, they have achieved, within the period measured by that pastor's labors, an educational success, and made their principles and practices felt in the political and ethical, as well as the educational questions of the day, to an extent which Oberlin never aspired to.

The land was bought in 1832—the first log cabin on the tract, by no means inviting for settlement, was built in April, 1833, and the first college building was extemporized, out of trees felled from the till then untouched forest; in the following summer, a church on the Congregational basis, but in temporary connection with a Presbytery, was gathered in September, and in December a school was opened in "Oberlin Hall," with thirty pupils, which number before the close of May, 1834, was increased to one hundred. And thus was launched an enterprise which, in little more than thirty years, has grown into a village and township of 3000 inhabitants, and according to the annual catalogue of 1867-68, (of fifty-six closely-printed pages,) and an institution (no longer the "Oberlin Collegiate Institute" on the manual labor system, with one undergraduate student of Western Reserve College as teacher,) known throughout the land as OBERLIN COLLEGE, with an endowment of \$160,000, seven buildings, and twenty professors and instructors laboring in a *Theological Department* with 11 students; a *College Department* with 119 students, 9 of whom are ladies in a four years' course; a *Scientific Course* of three years, with 34 students; a *Preparatory Department* with 484 "gentlemen" students; a *Young Ladies' Course* of four years, with 190 students; and a *Ladies' Preparatory Course* with 294 pupils—a grand total of 1134 pupils. Besides these regular courses, there is a "Teachers' Institute" every Fall term, continuing about six weeks, in which special instruction is given to those who propose to teach; a "Winter Vacation School," under the superintendence of the Faculty, in optional studies, commencing at the close of the Autumn term; and a "Conservatory of Music," under a Professor fresh from the Conservatory of Music at Leipzig in Saxony. And in these thirty years, over 15,000 pupils have been instructed to some extent in its various courses. [We shall return to Oberlin.—*Ed.*]

## IX. SCHOOLS FOR PROFESSIONAL EDUCATION OF TEACHERS.

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### NORMAL SCHOOL.

THE term Normal School is an unfortunate misnomer, and its general adoption has led to much confusion of ideas. The word "Normal," from the Latin *norma*, a rule or pattern to work by, does not differ essentially from "Model." A Normal School, according to the meaning of the word, would be a pattern school, an institution which could be held up for imitation, to be copied by other schools of the same grade. But this meaning of the word is not what we mean by the thing. When we mean a school to be copied or imitated, we call it a Model School. Here the name and the thing agree. The name explains the thing. It is very different when we speak of a Normal School. To the uninitiated, the term either conveys no meaning at all; or, if your hearer is a man of letters, it conveys to him an idea which you have at once to explain away. You have to tell him, in effect, that a Normal School is not a Normal School, and then that it is something else, which the word does not in the least describe.

What then do we mean by a Normal School? What is the thing which we have called by this unfortunate name?

A Normal School is a seminary for the professional education of teachers. It is an institution in which those who wish to become teachers learn how to do their work; in which they learn, not reading, but how to teach reading; not penmanship, but how to teach penmanship; not grammar, but how to teach grammar; not geography, but how to teach geography; not arithmetic, but how to teach arithmetic. The idea which lies at the basis of such an institute, is that knowing a thing, and knowing how to teach that thing to others, are distinguishable and very different facts. The knowledge of the subjects to be taught, may be gained at any school. In order to give to the Teachers' Seminary its full power, and efficiency, it were greatly to be desired that the subjects themselves, as mere matters of knowledge, should be first learned elsewhere, before entering the Teachers' School. This latter would then have to do only with its own special function, that of showing its matriculants how to use these materials in the process of teaching. Unfortunately, we have not made such progress in popular education as to be able to separate these two functions to the extent that is desirable. Many of those who attend a Teachers' Seminary, come to it lamentably ignorant of the com-

mon branches of knowledge. They have consequently first to study these branches in the Normal School, as they would study them in any other school. That is, they have first to learn the facts as matters of knowledge, and then to study the art and science of teaching these facts to others. Instead of coming with their brick and mortar ready prepared, that they may be instructed in the use of the trowel and the plumb-line, they have to make their brick and mix their mortar after they enter the institution. This is undoubtedly a drawback and a misfortune. But it cannot be helped at present. All we can do is to define clearly the true idea of the Teacher's School, and then to work towards it as fast and as far as we can.

A Normal School is essentially unlike any other school. It has been compared indeed to those professional schools which are for the study of law, divinity, medicine, mining, engineering, and so forth. The Normal School, it is true, is like these schools in one respect. It is established with reference to the wants of a particular profession. It is a professional school. But those schools have for their main object the communication of some particular branch of science. They teach law, divinity, medicine, mining, or engineering. They aim to make lawyers, divines, physicians, miners, engineers, not teachers of these branches. The Professor in the Law School aims, not to make Professors of law, but lawyers. The medical Professor aims, not to make medical lecturers, but practitioners. To render these institutions analogous to the Teachers' Seminary, their pupils should first study law, medicine, engineering, and so forth, and then sit at the feet of their Gamaliels to be initiated into the secrets of the Professorial chair, that they may in turn become Professors of those branches to classes of their own. Nor would such a plan, if it were possible, be altogether without its value. It surely needs no demonstration to prove, that in the highest departments, no less than in the lowest, something more than knowledge is needed in order to teach. An understanding of how to communicate one's knowledge, and practical skill in doing it, are as necessary in teaching theology, metaphysics, languages, infinitesimal analysis, or chemistry, as they are in teaching the alphabet. If there are bunglers, who know not how to go to work to teach a child its letters, or to open its young mind and heart to the reception of truth, whose school-rooms are places where the young mind and heart are in a state, either of perpetual torpor, or of perpetual nightmare, have these bunglers no analogues in the men of ponderous erudition that sometimes fill the Professor's chair? Have we no examples, in our highest seminaries of learning, of men very eminent in scientific attainments, who have not in themselves the first elements of a teacher? who impart to their students no quickening impulse? whose vast and towering knowledge may make them perhaps a grand feature in their College, attracting to it all eyes, but whose intellectual treasures, for all the practical wants of the students, are of no more use, than are the swathed and buried mummies in the pyramid of Cheops!

A Teacher's Seminary, if it were complete, would include in its curriculum of study the entire cycle of human knowledge, so far as it is taught by schools. Our teachers of mathematics and of logic, of law and of medicine, need indeed a knowledge of the branches which they are to teach, and for this knowledge they do not need a Teachers' Seminary. But they need something more than this knowledge. Besides being men of erudition, they need to be teachers, no less than the humble members of the profession, who have only to teach the alphabet and the multiplication table; and there is in all teaching, high or low something that is common to them all—an art and a skill that is different from the mere knowledge of the subjects; which is not necessarily learned in learning the subjects; which requires special, superadded gifts, and distinct study and training. There is, according to my observation, as great a lack of this special skill in the higher seminaries of learning, as in the lower seminaries. Were it possible to have a Normal School, not which should undertake to teach the entire encyclopædia of the sciences, but which, limiting itself to its one main function of developing the art and mystery of communicating knowledge, should turn out College Professors, and even Divinity, Law, and Medical Professors,—men who are really skillful teachers,—it would work a change in those venerable institutions as marked and decisive as that which it is now effecting in the common schools. Of course, no such scheme is possible; certainly, none such is contemplated. But I am very sure I shall not be considered calumnious, when I express the conviction, that there are learned and eminent occupants of Professors' chairs, who might find great benefit in an occasional visit to a good Normal School, or even to the classroom of a teacher trained in a Normal School. I certainly have seen, in the very lowest department of the common school, a style of teaching, which, for a wise and intelligent comprehension of its object, and for its quickening power upon the intellect and conscience, would compare favorably with the very best teaching I have ever seen in a College or University.

I come back, then, to the point from which I set out, namely, that a Normal School, or Teachers' Seminary, differs essentially from every other kind of school. It aims to give the knowledge and skill that are needed alike in all schools. To make the point a little plainer, let me re-state, with what clearness I can, some of the elementary truths and facts which lie at the foundation of the whole subject. Though to many of my readers it may be going over a beaten track, it may not be so to all; and we all do well, even in regard to known and admitted truths, to bring them occasionally afresh to the mind.

As it has been already said, a man may know a thing perfectly, and yet not be able to teach it. Of course, a man cannot teach what he does not know. He must first have the knowledge. But the mere possession of knowledge does not make one a teacher, any more than the possession of powder and shot makes him a marksman, or the possession of a rod

and line makes him an angler. The most learned men are often unfortunately the very men who have the least capacity for communicating what they know. Nor is this incapacity confined to those versed in book knowledge. It is common to every class of men, and to every kind of knowledge. Let me give an example. The fact about to be stated, was communicated to me by a gentleman of eminent commercial standing in Philadelphia, now the President of one of its leading banks. The fact occurred in his own personal experience. He was, at the time of its occurrence, largely engaged in the cloth trade. His faculties of mind and body, and particularly his sense of touch, had been so trained in this business, that in going rapidly over an invoice of cloth, as his eye and hand passed in quick succession from piece to piece, in the most miscellaneous assortment, he could tell instantly the value of each, with a degree of precision, and a certainty of knowledge, hardly credible. A single glance of the eye, a single touch, transient as thought, gave the result. His own knowledge of the subject, in short, was perfect, and it was rapidly winning him a fortune. Yet when undertaking to explain to a younger and less experienced member of the craft whom he wished to befriend, by what process he arrived at his judgment, in other words, to teach what he knew, he found himself utterly at a loss. His thoughts had never run in that direction. "Oh!" said he, "you have only—to look at the cloth, and—and—to run your fingers over it,—thus. You will perceive at once the difference between one piece and another." It seems never to have occurred to him that another man's sensations and perceptions might in the same circumstances be quite different from his, and in order to communicate his knowledge to one uninitiated, he must pause to analyse it; he must separate, classify, and name those several qualities of the cloth of which his senses took cognizance; he must then ascertain how far his interrogator perceived by his senses the same qualities which he himself did, and thus gradually get on common ground with him.

Let the receiving-teller of a bank be called upon to explain how it is that he knows at a glance a counterfeit bill from a genuine one, and in nine cases out of ten he will succeed no better than the cloth merchant did. Knowing and communicating what we know, doing and explaining what we do, are distinct, separable, and usually very different processes.

Similar illustrations might be drawn from artists, and from men of original genius in almost every profession, who can seldom give any intelligible account of how they achieve their results. The mental habits best suited for achievement are rarely those best suited for teaching. Marlborough, so celebrated for his military combinations, could never give any intelligible account of his plans. He had arrived at his conclusions with unerring certainty, but he was so little accustomed to observing his own mental processes, that he utterly failed in attempting to make them plain to others. He saw the points himself with perfect clearness, but he had no power to make others see them. To all objections to his plans, he

could only say, "Silly, silly, that's silly." It was much the same with Oliver Cromwell. It is so with most men who are distinguished for action and achievement. Patrick Henry would doubtless have made but a third-rate teacher of elocution, and old Homer but an indifferent lecturer on the art of poetry.

To acquire knowledge ourselves, then, and to put others in possession of what we have acquired, are not only distinct intellectual processes, but they are quite unlike. In the former case, the faculties merely go out towards the objects to be known, as in the case of the cloth merchant passing his eye and finger over the bales of cloth. But in the case of one attempting to teach, several additional processes are needed, besides that of collecting knowledge. He must turn his thoughts inward, so as to arrange and classify properly the contents of his intellectual storehouse. He must then examine his own mind, his intellectual machinery, so as to understand precisely how the knowledge came in upon himself. He must lastly study the minds of his pupils, so as to know through what channels the knowledge will best reach them. The teacher may not always be aware that he does all these things, that is, he may not always have a theory of his own art. But the art itself he must have. He must first get the knowledge of the things to be taught; he must secondly study his knowledge; he must thirdly study himself; he must lastly study his pupil. He is a teacher at all only so far as he does at least these four things.

In a Normal School, as before said, the knowledge of the subject is presupposed. The object of the Normal School is, not so much to make arithmeticians and grammarians, for instance, as to make teachers of arithmetic and grammar. This teaching faculty is a thing by itself; and quite apart from the subject matter to be taught. It underlies every branch of knowledge, and every trade and profession. The theologian, the mathematician, the linguist, the learned professor, no less than the teacher of the primary school, or of the Sabbath-school, all need this supplementary knowledge and skill, in which consists the very essence of teaching. This knowledge of how to teach is not acquired by merely studying the subject to be taught. It is a study by itself. A man may read familiarly the *Mechanique Celeste*, and yet not know how to teach the multiplication table. He may read Arabic or Sanskrit, and not know how to teach a child the alphabet of his mother tongue. The Sabbath-school teacher may dip deep into biblical lore, he may ransack the commentaries, and may become, as many Sabbath-school teachers are, truly learned in Bible knowledge, and yet be utterly incompetent to teach a class of children. He can no more hit the wandering attention, or make a lodgment in the minds of his youthful auditory, than the mere unskilled possessor of a fowling-piece can hit a bird upon the wing.

#### THE ART OF TEACHING.

The art of teaching is the one indispensable qualification of the teacher.

Without this, whatever else he may be, he is no teacher. How may this art be acquired? In the first place, many persons pick it up, just as they pick up many other arts and trades,—in a hap-hazard sort of way. They have some natural aptitude for it, and they grope their way along, by guess and by instinct, and through many failures, until they become good teachers, they hardly know how. To rescue the art from this uncertainty and chance, is the object of the Normal School. In such a school, the main object of the pupil is to learn how to make others know what he himself knows. The whole current of his thoughts and studies is turned into this channel. Studying how to teach, with an experimental class to practice on, forms the constant topic of his meditations. It is surprising how rapidly, under such conditions, the faculty of teaching is developed; how fertile the mind becomes in devising practical expedients, when once the attention is roused and fixed upon the precise object to be attained, and the idea of what teaching really is, fairly has possession of the mind. In furtherance of this end, every well-ordered Normal School has, in connection with it, and as part of its organization, a Model School, to serve the double purpose of a school of observation, and a school of practice. Thus, after these pupil-teachers are once thoroughly familiar with the branches to be taught, and after they have become acquainted with the theory of teaching, as a science, it is surprising how soon, with even a little of this practice-teaching, they acquire the art. If the faculty of teaching is in them at all, a few experimental lessons, under the eye of an experienced teacher, will develope it. The fact of possessing within one's self the teaching gift, sometimes breaks upon the possessor himself with all the force of a surprising and most delightful discovery. The good teacher does not indeed stop here. He goes on to improve in his art as long as he lives. But his greatest single achievement is when he takes the first step,—when he first learns to teach at all. The pupil of a Normal School gains there a start, an impulse, which carries him forward the rest of his life. Thus a very little judicious experimental training redeems hundreds of candidates from utter and pitiful incompetency, and converts for them an awkward and painful drudgery into keen, hopeful, and productive labor.

#### TEACHING.

But what is teaching? Unless our ideas on this point are clear and well defined, it is in vain to look for any satisfactory results. Teaching, then, in the first place, is not simply telling. A class may be told a thing twenty times over, and yet not know it. Talking to a class is not necessarily teaching. We have known many teachers, who were brimful of information, and were good talkers, and who discoursed to their classes with ready utterance a large part of the time allotted to instruction, yet an examination of their classes showed little advancement in knowledge.

There are several time-honored metaphors on this subject, which need to be received with some grains of allowance, if we would get an exact

idea of what teaching is. Chiselling the rude marble into the finished statue, giving the impression of the seal upon the soft wax, pouring water into an empty vessel,—all these comparisons lack one essential element of likeness. The mind is indeed, in one sense, empty, and needs to be filled. It is yielding, and needs to be impressed. It is rude, and needs polishing. But it is not, like the marble, the wax, or the vessel, a passive recipient of external influences. It is itself a living power. It is acted upon only by stirring up its own activities. The operative upon mind, unlike the operative upon matter, must have the active, voluntary coöperation of that upon which he works. The teacher is doing his work, only so far as he gets work from the scholar. The very essence and root of the work are in the scholar, not in the teacher. No one, in fact, in an important sense, is taught at all, except so far as he is self-taught. The teacher may be useful, as an auxiliary, in causing this action on the part of the scholar. But the one, indisputable, vital thing, in all learning, is in the scholar himself. The old Romans, in their word education, (*educere*, to draw out) seem to have come nearer to the true idea than any other people have done. The teacher is to draw out the resources of the pupil. Yet even this word comes short of the exact truth. The teacher must put in, as well as draw out. No process of mere pumping will draw out of a child's mind knowledge which is not there. All the power of the Socratic method, could it be applied by Socrates himself, would be unavailing to draw from a child's mind, by mere questioning, a knowledge, for instance, of chemical affinity, of the solar system, of the temperature of the Gulf Stream, of the doctrine of the resurrection.

What then is teaching? Teaching is causing any one to know. Now no one can be made to know a thing, but by the act of his own powers. His own senses, his own memory, his own powers of reason, perception, and judgment must be exercised. The function of the teacher is to bring about this exercise of the pupil's faculties. The means to do this are infinite in variety. They should be varied according to the wants and the character of the individual to be taught. One needs to be told a thing; he learns most readily by the ear. Another needs to use his eyes; he must see a thing, either in the book, or in nature. But neither eye nor ear, nor any other sense or faculty will avail to the acquisition of knowledge, unless the power of attention is cultivated. Attention, then, is the first act or power of the mind that must be roused. It is the very foundation of all progress in knowledge, and the means of awakening it constitute the first step in the educational art.

When by any means, facts, positive knowledge, are once in possession of the mind, something must next be done to prevent their slipping away. You may tell a class the history of a certain event, or you may give them a description of a certain place, or person, or you may let them read it, and you may secure such a degree of attention, that at the time of the reading or the description, they shall have a fair, intelligible comprehension of what has been described or read. The facts are for the time

actually in the possession of the mind. Now, if the mind was, according to the old notion, merely a vessel to be filled, the process would be complete. But mind is not an empty vessel. It is a living essence, with powers and processes of its own. And experience shows us, that in the case of a class of undisciplined pupils, facts, even when fairly placed in the possession of the mind, often remain there about as long as the shadow of a passing cloud remains upon the landscape, and make about as much impression.

The teacher must seek not only to get knowledge into the mind, but to fix it there. In other words, the power of the memory must be strengthened. Teaching, then, most truly, and in every stage of it, is a strictly coöperative process. You cannot cause any one to know, by merely pouring out stores of knowledge in his hearing, any more than you can make his body grow by spreading the contents of your market-basket at his feet. You must rouse his power of attention, that he may lay hold of, and receive, and make his own, the knowledge you offer him. You must awaken and strengthen the power of memory within him, that he may retain what he receives, and thus grow in knowledge, as the body by a like process grows in strength and muscle. In other words, learning, so far as the mind of the learner is concerned, is a growth; and teaching, so far as the teacher is concerned, is doing whatever is necessary to cause that growth.

Let us proceed a step farther in this matter. One of the ancients observes that a lamp loses none of its own light by allowing another lamp to be lit from it. He uses the illustration to enforce the duty of liberality in imparting our knowledge to others. Knowledge he says, unlike other treasures, is not diminished by giving.

The illustration fails to express the whole truth. This imparting of knowledge to others, not only does not impoverish the donor, but it actually increases his riches. *Docendo discimus.* By teaching we learn. A man grows in knowledge by the very act of communicating it. The reason for this is obvious. In order to communicate to the mind of another a thought which is in our own mind, we must give to the thought definite shape and form. We must handle it and pack it up for safe conveyance. Thus the mere act of giving a thought expression in words, fixes it more deeply in our own minds. Not only so, we can, in fact, very rarely be said to be in full possession of a thought ourselves, until by the tongue or the pen we have communicated it to somebody else. The expression of it, in some form, seems necessary to give it, even in our own minds, a definite shape and a lasting impression. A man who devotes himself to solitary reading and study, but never tries in any way to communicate his acquisitions to the world, or enforce his opinions upon others, rarely becomes a learned man. A great many confused, dreamy ideas, no doubt, float through the brain of such a man. But he has little exact and reliable knowledge. The truth is, there is a sort of indolent, listless absorption of intellectual food, that tends to idiocy. I knew a

person once, a gentleman of wealth and leisure, who having no taste for social intercourse, and no material wants to be supplied, which might have required the active exercise of his powers, gave himself up entirely to solitary reading, as a sort of luxurious self-indulgence. He shut himself up in his room, all day long, day after day, devouring one book after another, until he became almost idiotic by the process, and he finally died of softening of the brain. Had he been compelled to use his mental acquisitions in earning his bread, or had the love of Christ constrained him to use them in the instruction of the poor and the ignorant, he might have become not only a useful, but a learned man.

We see a beautiful illustration of this doctrine in the case of Sabbath-school teachers, and one reason why persons so engaged usually love their work, is the benefit which they find in it for themselves. I speak here, not of the spiritual, but of the intellectual benefit. By the process of teaching others, they are all the while learning. This advantage in their case is all the greater, because it advances them in a kind of knowledge in which, more than in any other kind of knowledge, men are wont to become passive and stationary. In ordinary worldly knowledge, our necessities make us active. The intercourse of business and of pleasure even, makes men keen. On these subjects we are all the while bandying thoughts to and fro, we are accustomed to give as well as take, and so we keep our intellectual armor bright, and our thoughts well defined. But in regard to growth in scriptural knowledge, we have a tendency to be mere passive recipients, like the young man just referred to. Sabbath after Sabbath we hear good, instructive, orthodox discourses, but there is no active putting forth of our own powers in giving out what we thus take in, and so we never make it effectually our own. The absorbing process goes on, and yet we make no growth. The quiescent audience is a sort of exhausted receiver, into which the stream from the pulpit is perennially playing, but never making it full. Let a man go back and ask himself, what actual scriptural knowledge have I gained by the sermons of the last six months? What in fact do I retain in my mind, at this moment, of the sermons I heard only last Sabbath? So far as the hearing of sermons is concerned, the Sabbath-school teacher may perhaps be no better off than other hearers. But in regard to general growth in Biblical knowledge, he advances more rapidly than his fellow worshippers, because the exigencies of his class compel him to a state of mind the very opposite of this passive recency. He is obliged to be all the while, not only learning, but putting his acquisitions into definite shape for use, and the very act of using these acquisitions in teaching a class, fixes them in his own mind, and makes them more surely his own.

I have used this instance of the Sabbath-school teacher because it enforces an important hint already given, as to the mode of teaching. Some teachers, especially in Sabbath-schools, seem to be ambitious to do a great deal of talking. The measure of their success, in their own eyes, is their ability to keep up a continued stream of talk for the greater part of the hour. This is of course better than the embarrassing silence

sometimes seen, where neither teacher nor scholar has anything to say. But at the best, it is only pouring into the exhausted receiver enacted over again. We can never be reminded too often, that there is no teaching except so far as there is active coöperation on the part of the learner. The mind receiving must reproduce and give back what it gets. This is the indispensable condition of making any knowledge really our own. The very best teaching I have ever seen, has been where the teacher said comparatively little. The teacher was of course brimfull of the subject. He could give the needed information at exactly the right point, and in the right quantity. But for every word given by the teacher, there were many words of answering reproduction on the part of the scholars. Youthful minds under such tutelage grow apace.

It is indeed a high and difficult achievement in the educational art, to get young persons thus to bring forth their thoughts freely for examination and correction. A pleasant countenance and a gentle manner, inviting and inspiring confidence, have something to do with the matter. But, whatever the means for accomplishing this end, the end itself is indispensable. The scholar's tongue must be unloosed, as well as the teacher's. The scholar's thoughts must be broached as well as the teacher's. Indeed, the statement needs very little qualification or abatement, that a scholar has learned nothing from us except what he has expressed to us again in words. The teacher who is accustomed to harangue his scholars with a continuous stream of words, no matter how full of weighty meaning his words may be, is yet deceiving himself, if he thinks that his scholars are materially benefited by his intellectual activity, unless it is so guided as to awaken and exercise theirs. If, after a suitable period, he will honestly examine his scholars on the subjects, on which he has himself been so productive, he will find that he has been only pouring water into a sieve. Teaching can never be this one-sided process. Of all the things we attempt, it is the one most essentially and necessarily a coöperative process. There must be the joint action of the teacher's mind and the scholar's mind. A teacher teaches at all, only so far as he causes this co-active energy of the pupil's mind.

#### THE ART OF QUESTIONING.

It cannot be too often repeated, the measure of a teacher's success, is not what he himself does, but what he gets his scholars to do. In nothing is this more noticeable, than in the different modes of putting a question to a scholar. One teacher will put a question in such a manner as to find out exactly how much or how little of the subject the child knows, and thereby encourage careful preparation; to give the pupil an open door, if he really knows the subject, to express his knowledge in a way that will be a satisfaction and a pleasure to him; to improve his power of expression, to cultivate his memory, to increase his knowledge, and to make it more thorough and definite. Another teacher will put his questions so as to secure none of these ends, but on the contrary so as to induce a most lamentable degree of carelessness and inaccuracy. Let me

illustrate this point, taking an example for greater convenience from a scriptural subject. Suppose it be a lesson upon Christ's temptation, as recorded in the 4th chapter of Matthew. The dialogue between teacher and scholar may be supposed to proceed somewhat in this wise:

*Teacher.* Who was led up of the Spirit into the wilderness to be tempted of the devil?

*Pupil.* Jesus.

*T.* Yes. Now when Jesus had fasted forty days and forty nights, he was afterward a—— what? How did he feel after that?

*P.* Hungry.

*T.* Yes, that is right. He was afterward "abungered." Now then?—the next scholar. Who then came to Jesus and said, if thou be the Son of God, command that these stones be made bread?

(Scholar hesitates.)

*T.* The t——?

*P.* The tempter.

*T.* Yes, you are right. It was the tempter. Who do you think was meant by the tempter?—the devil?

*P.* Yes.

*T.* When a man has fasted, that is, has eaten nothing, for forty days and forty nights, and feels very hungry, would the suggestion of an easy mode of getting food be likely to be a strong temptation to him, or would it not?

*P.* It would.

*T.* Yes, you are right again. It would be a strong temptation to him.

I need not pursue this dialogue further. The reader will see at once how there may thus be the appearance of quite a brisk and fluent recitation, to which however the pupil contributes absolutely nothing. It requires nothing of him in the way of preparation, and only the most indolent and profitless use of his faculties while reciting. He could hardly answer amiss, unless he were an idiot, and yet he has the appearance, and he is often flattered into the belief, of having given some evidence of knowledge and proficiency.

The opposite extreme from the method just exhibited, is that known as the topical method. It is the method pursued in the higher classes of schools, and among more advanced students. In the topical method, the teacher propounds a topic or subject, sometimes in the form of a question, but more commonly only by a title, a mere word or two, and then calls upon the pupil to give, in his own words, a full and connected narration or explanation of the subject, such as the teacher himself would give, if called upon to narrate or explain it. The subject already suggested, if propounded topically, would be somewhat in this wise:

The first temptation of Jesus.

Or, more fully: Narrate the circumstances of the first temptation of Jesus, and show wherein his virtue was particularly tried in that transaction.

The teacher, having propounded the subject clearly to the class, then waits patiently, maintaining silence himself, and requiring the members of the class to be silent and attentive, until the pupil interrogated is quite through, not hurrying him, not interrupting him, even with miscalled helps and hints, but leaving him to the free and independent action of his own faculties, in giving as full, connected, and complete an account of the

matter as he can. When the pupil is quite through, the teacher then, but not before, makes any corrections or additional statements that may seem to be needed. In such an exercise as this, the pupil finds the absolute necessity of full and ample preparation; he has a powerful and healthy stimulus thus to prepare, in the intellectual satisfaction which one always feels in the successful discharge of any difficult task; and he acquires a habit of giving complete and accurate expression to his knowledge, by means of entire sentences, and without the help of "catch words," or leading-strings of any kind.

Some classes, of course, are not sufficiently advanced to carry out fully the method here explained. But there are many intermediate methods, founded on the same principle, and suited to children in every stage of advancement. Only let it be understood, whatever the stage, that the object of the recitation is, not to show what the teacher can say or do, but to secure the right thing being said and done by the pupil.

To recur once more to the same subject, the temptation of Christ. For a very juvenile class, the questioning might proceed on this wise:

*T.* Where was Jesus led after his baptism?  
*P.* He was led into the wilderness.  
*T.* By whom was he led there?  
*P.* He was led by the Spirit.  
*T.* For what purpose was he led into the wilderness?  
*P.* He was led into the wilderness to be tempted.  
*T.* By whom was he to be tempted?  
*P.* He was to be tempted by the devil.  
*T.* What bodily want was made the means of his first temptation?

If the class is quite young, and this question seems too difficult, the teacher, instead of asking it, or after asking it and not getting a satisfactory answer, might say to his class, that Jesus was first tempted through the sense of hunger. He was very hungry, and the devil suggested to him an improper means of relieving himself from the inconvenience. He might then go on with some such questions as these:

*T.* What circumstance is mentioned as showing how very hungry he must have been?  
*P.* He had fasted forty days and forty nights.  
*T.* Mention any way in which *you* might be tempted to sin, if you were suffering from hunger?

The foregoing questions, it will be perceived, are very simple, being suited to scholars just advanced beyond the infant class. Yet no one of the questions, in its form or terms, necessarily suggests the answer. No one of them can be answered by a mere "yes" or "no." No scholar, unacquainted with the subject, and with his book closed, can guess at the answer from the way in which the question is put. Not a question has been given, simple as they all are, which does not require at least some preparation, and which does not, to some extent, give exercise to the pupil's memory, his judgment, and his capacity for expression.

If the class is more advanced, the questions may be varied, so as to task and exercise these faculties more seriously. For instance, the teacher of a class somewhat older might be imagined to begin the exercise thus:

*T.* After the baptism of Jesus, which closes the 3d chapter of Matthew, we have an account of several temptations to which he was exposed. Now, open

your books at the 4th chapter and see if you can find out how many verses are occupied with the narrative of these temptations, and at what verse each temptation begins.

The teacher then requires all the class to search in silence, and each one to get ready to answer, but lets no answer be given until all are prepared. When all have signified their readiness, some one is designated to give the answer.

The books being closed, the questioning begins:

T. Name the different places into which Jesus was taken to be tempted, and the verse in which each place is named.

P. It is said in the 1st verse that Jesus was led up into the wilderness; in the 5th verse that he was taken up into the holy city, and set on a pinnacle of the temple; and in the 8th verse, that he was taken up into an exceedingly high mountain.

T. What was the condition of Jesus, when the devil proposed his first temptation?

P. He had been fasting forty days and forty nights, and he was very hungry.

I need not multiply these illustrations. I have not made the mention entirely in vain, if I have succeeded in producing in the mind of the reader the conviction of these two things; first, that it is a most important and difficult part of the teacher's art, to know how to ask a question; and, secondly, that the true measure of the teacher's ability is, not so much what he himself is able to say to the scholars, as the fulness, the accuracy and the completeness of the answers which he gets from them.

#### TEACHING AND TRAINING.

Before leaving this part of the subject, and that there may be no possible misunderstanding on these elementary points, it seems proper that I should here explain briefly the difference between teaching and training, two processes which practically run into each other a good deal, but which nevertheless ought not to be confounded. Training implies more or less of practical application of what one has been taught. One may be taught, for instance, the exact forms of the letters used in writing, so as to know at once by the eye whether the letters are formed correctly or not. But only training and practice will make him a penman. Training refers more to the formation of habits. A child may be taught by reasoning the importance of punctuality in coming to school. But he is trained to the habit of punctuality only by actually coming to school in good time, day after day.

The human machine on which the teacher acts, is in its essential nature different from the material agencies operated on by other engineers. It is, as I have once and again said, a living power, with laws and processes of its own. Constant care, therefore, must be exercised, in the business of education, not to be misled by analogies drawn from the material world. The steam engine may go over its appointed task, day after day, the whole year round, and yet, at the end of the year, it will have no more tendency to go than before its first trip. Not so the boy. Going begets going. By doing a thing often, he acquires a facility, an inclination, a tendency, a habit of doing it. If a teacher or a parent succeeds in getting a child to do a thing once, it will be easier to get him to do it a second time, and still easier, a third time.

A teacher who is wise, when he seeks to bring about any given change in a child, whether it be intellectual or moral, will not ordinarily attempt to produce the change all at once, and by main force. He will not rely upon extravagant promises on the one side, nor upon scolding, threats, and violence on the other. Solomon hits the idea exactly, when he speaks of "leading in the way of righteousness." We must take the young by the hand and lead them. When we have led them over the ground once, let us do it a second time, and then a third time, and so keep on, until we shall have established with them a routine, which they will continue to follow of their own accord, when the guiding hand which first led them is withdrawn. *This is training.*

The theory of it is true, not only in regard to things to be done, which is generally admitted, but also in regard to things to be known, which is often ignored if not denied. A boy, we will say, has a repugnance to the study of arithmetic. Perhaps he is particularly dull of comprehension on that subject. We shall not remove that repugnance by railing at him. We shall never make him admire it by expatiating on its beauties. It will not become clear to his comprehension by our pouring upon it all at once a sudden and overpowering blaze of light in the way of explanation. Such a process rather confounds him. Here again let us fall back upon the method of the great Teacher, "Line upon line, precept upon precept." We will first patiently conduct our boy through one of the simplest operations of arithmetic, say, a sum in addition. The next day we will conduct him again through the same process, or through another of the same sort. The steps will gradually become familiar to his mind, then easy, then clear. He learns first the practice of arithmetic, then the rules, then the relations of numbers, then the theory on which the rules and the practice are based, and finally, he hardly knows how, he becomes an arithmetician. He has been trained into a knowledge of the subject.

You wish to teach a young child how to find a word in a dictionary. You give at first, perhaps, a verbal description of the mystery of a dictionary. You tell him that, in such a book, all the words are arranged according to the letters with which they begin; that all the words beginning with the letter A are in the first part of the book. Then those beginning with the letter B, then those beginning with C, and so on; you tell him that all the words beginning with one letter, covering some one or two hundred pages, are again re-arranged among themselves according to the second letter of each word, and then again still further re-arranged according to the third letter in each, and so on to the end. Arouse his utmost attention, and explain the process with the greatest clearness that words can give, and then set him to find a word. See how awkward will be his first attempt, how confused his ideas, how little he has really understood what you have told him. You must repeat your directions patiently, over and over, "line upon line"; you must take him by the hand, day after day, and train him into a knowledge of even so apparently simple a thing as finding a word in a dictionary.

While teaching and training are thus distinguishable in theory, in practice they are well nigh inseparable. At least, they never should be separated. Teaching has never done its perfect work, until, by training, the mind has learned to run in accustomed channels, until it sees what is true, and feels what is right, with a clearness, force, and promptitude, which come only from long-continued habit.

Supposing a man to know clearly what teaching is, and to have himself the gift, how endless are the modes by which it is to be exercised! How numerous are the methods of doing even that one function of the teacher's office, the hearing of recitations! It may be well to occupy a little space in considering two or three of these modes, by way of still farther illustrating the subject, and before drawing the general conclusion to which all these illustrations point.

#### METHODS OF HEARING RECITATIONS.

The first that I shall name is called the concert method. This is practiced chiefly in schools for very young children, especially for those who cannot read. There are many advantages in this method, some of which are not confined to infant classes. The timid, who are frightened by the sound of their own voices when attempting to recite alone, are thereby encouraged to speak out, and those who have had any experience with such children, know that this is no small, or easy, or unimportant achievement. Another benefit of the method is the pleasure it gives the children. The measured noise and motion connected with such concert exercises, are particularly attractive to young children. Moreover, one good teacher, by the use of this method, may greatly multiply his efficiency. He may teach simultaneously fifty or sixty, instead of teaching only five or six. But in estimating this advantage, one error is to be guarded against. Visitors often hear a large class of fifty or more go through an exercise of this kind, in which the scholars have been drilled to recite in concert, and if such persons have never been accustomed to investigate the fact, they often suppose that the answers given are the intelligent responses of all the members of the class. The truth is, however, in very many such cases, that only some half-dozen or so really recite the answers from their own independent knowledge. These serve as leaders; the others, sheep-like, follow. Still, by frequent repetition, even in this blind way, something gradually sticks to the memory, although the impression is always apt to be vague and undefined.

The method of reciting in concert is, in my opinion, chiefly useful in reciting rules and definitions, or other matters, where the very words are to be committed to memory. The impression of so large a body of sound upon the ear is very strong, and is a great help in the matter of mere verbal recollection. Children too are very sympathetic, and a really skillful teacher, by the concert method, can do a great deal in cultivating the emotional nature of a large class.

Young children, too, it should be remembered, like all other young

animals, are by nature restless and fidgety, and like to make a noise. It is possible, indeed, by a system of rigorous and harsh repression, to restrain this restlessness, and to keep these little ones for hours in such a state of decorous primness as not to molest weak nerves. But such a system of forced constraint is not natural to children, and is not a wise method of teaching. Let the youngsters make a noise; I had almost said, the more noise the better, so it be duly regulated. Let them exercise, not only their lungs, but their limbs, moving in concert, rising up, sitting down, turning round, marching, raising their hands, pointing to objects to which their attention is called, looking at objects which are shown to them. Movement and noise are the life of a child. They should be regulated, indeed, but not repressed. To make a young child sit still and keep silence for any great length of time, is next door to murder. I verily believe it sometimes is murder. The health, and even the lives of these little ones, are sacrificed to a false theory of teaching. There is no occasion for torturing a child in order to teach him. God did not so mean it. Only let your teaching be in accordance with the wants of his young nature, and the school-room will be to him the most attractive spot of all the earth. Time and again have I seen the teacher of a primary school obliged at recess to compel her children to go out of doors, so much more pleasant did they find the school-room than the play-ground.

Quite the opposite extreme from the concert method, is that which, for convenience, may be called the individual method. In this method, the teacher examines one scholar alone upon the whole lesson, and then another, and so on, until the class is completed.

The only advantage claimed for this method is that the individual laggard cannot screen his deficiencies, as he can when reciting in concert. He cannot make believe to know the lesson by lazily joining in with the general current of voice when the answers are given. His own individual knowledge, or ignorance, stands out. This is clear, and so far it is an advantage. But ascertaining what a pupil knows of a lesson, is only one end, and that by no means the most important end of a recitation. This interview between the pupil and teacher, called a recitation, has many ends besides that of merely detecting how much of a subject the pupil knows. A far higher end is to make him know more,—to make perfect that knowledge which the most faithful preparation on the part of the pupil always leaves incomplete.

The disadvantages of the individual method are obvious. It is a great waste of time. If a teacher has a class of twenty, and an hour to hear them in, it gives him but three minutes for each pupil, supposing there are no interruptions. But we know there always are interruptions. In public schools the class oftener numbers forty than twenty, and the time for recitation is oftener half an hour than an hour. The teacher who pursues the individual method to its extreme, will rarely find himself in possession of more than one minute to each scholar. In so brief a time, very little can be ascertained as to what the scholar knows of the lesson,

and still less can anything be done to increase that knowledge. Moreover, while the teacher is bestowing his small modicum of time upon one scholar, all the other members of the class are idle, or worse.

Teaching, of all kinds of labor, is that in which labor-saving and time-saving methods are of the greatest moment. The teacher who is wise, will aim so to conduct a recitation that, first, his whole time shall be given to every scholar; and secondly, the scholar's mind shall be exercised with every part of the lesson, and just as much when others are reciting, as when it is his own time to recite. A teacher who can do this is teaching every scholar, all the time, just as much as if he had no scholar but that one.

Even this does not state the whole case. A scholar in such a class learns more in a given time, than he would if he were alone, and the teacher's entire time were given exclusively to him. The human mind is wonderfully quickened by sympathy. In a crowd each catches, in some mysterious manner, an impulse from his fellows. The influence of associated numbers, all engaged upon the same thought, is universally to rouse the mind to a higher exercise of its powers. A mind that is dull, lethargic, and heavy in its movements, when moving solitarily, often effects, when under a social and sympathetic impulse, achievements that are a wonder to itself.

The teacher, then, who knows how thus to make a unit of twenty or thirty pupils, really multiplies himself twenty or thirty-fold, besides giving to the whole class an increased momentum such as always belongs to an aggregated mass. I have seen a teacher instruct a class of forty in such a way, as, in the first place, to secure the subordinate end of ascertaining and registering with a sufficient degree of exactness how much each scholar knows of the lesson by his own preparation, and secondly, to secure, during the whole hour, the active exercise and coöperation of each individual mind, under the powerful stimulus of the social instinct, and of a keenly awakened attention. Such a teacher accomplishes more in one hour than the slave of the individual method can accomplish in forty hours. A scholar in such a class learns more in one hour than he would learn in forty hours, in a class of equal numbers taught on the other plan. Such teaching is labor-saving and time-saving, in their highest perfection, employed upon the noblest of ends.

#### OBSERVING A PROPER ORDER IN THE DEVELOPMENT OF THE FACULTIES.

But besides these questions of methods, there are other and higher questions, growing out of what may be called the philosophy of education. One of these relates to the observance of a proper order in the development of the mental faculties, and a mistake on this point leads often to a sad waste of time, even where it does not cause a mischievous perversion of ideas. Education may be defined to be the process of developing in due order and proportion all the good and desirable parts of human nature. On this point all educators are substantially agreed.

Another truth, to which there is a general theoretical assent, is that, in the order in which we develop the faculties, we should follow the leadings of nature, cultivating in childhood those faculties which seem most naturally to flourish in childish years, and reserving for maturer years the cultivation of those faculties which in the order of nature do not show much vigor until near the age of manhood, and which require for their full development a general ripening of all the other powers. The development of a human being is in some respects like that of a plant. There is one stage of growth suitable for the appearance and maturity of the leaf, another for the flower, a third for the fruit, and still a fourth for the perfected and ripened seed.

The analogy has of course many limitations. In the human plant, for instance, one class of faculties, after maturing, does not disappear in order to make place for another class, as the flower disappears before there can be fruit. Nor, again, is any class of faculties wanting altogether until the season for their development and maturity. The faculties all exist together, leaf, flower, fruit, and seed, at the same time, but each has its own best time for ripening.

While these principles have received the general assent of educators, there has been a wide divergence among them as to some of the practical applications. Which faculties do most naturally ripen early in life, and which late in life?

According to my own observation, the latest of the human powers in maturing, as it is the most consummate, is the Judgment. Next in the order of maturity, and next also in majesty and excellence, is the Reasoning power. Reason is minister to the judgment, furnishing to the latter materials for its action, as all the other powers, memory, fancy, imagination, and so forth, are ministers to reason, and supply it with its materials. The reasoning power lacks true vigor and muscle, the judgment is little to be relied on, until we approach manhood. Nature withholds from these faculties an earlier development, for the very reason, apparently, that they can ordinarily have but scanty materials for action until after the efflorescence of the other faculties. The mind must first be well filled with knowledge, which the other faculties have gathered and stored, before reason and judgment can have full scope for action.

Going to the other end of the scale, I have as little doubt that the earliest of all the faculties to bud and blossom, is the Memory. Children not only commit to memory with ease, but they take actual pleasure in it. Tasks, under which the grown up man recoils and reels, the child will assume with light heart, and execute without fatigue. Committing to memory, which is repulsive drudgery to the man, is the easiest of all tasks to the child. More than this, The things fixed in the memory of childhood are seldom forgotten. Things learned later in life, not only are learned with greater difficulty, but more rapidly disappear. I recall instantly and without effort, texts of Scripture, hymns, catechisms, rules of grammar and arithmetic, and scraps of poetry and of classic authors,

with which I became familiar when a boy. But it is a labor of Hercules for me to repeat by memory anything acquired since attaining the age of manhood. The Creator seems to have arranged an order in the natural development of the faculties for this very purpose, that in childhood and youth we may be chiefly occupied with the accumulation of materials in our intellectual storehouse. Now to reverse this process, to occupy the immature mind of childhood chiefly with the cultivation of faculties which are of later growth, and actually to put shackles and restraints upon the memory, nicknaming and ridiculing all memoriter exercises as parrot performances, is to ignore one of the primary facts of human nature. It is to be wiser than God.

Another faculty that shoots up into full growth in the very morning and spring-time of life, is Faith. I speak here, of course, not of religious faith, but of the faculty of the human mind which leads a child to believe instinctively whatever is told him. That we all do thus believe, until by slow and painful experience we learn to do otherwise, needs no demonstration. Everybody's experience attests the fact. It is equally plain that the existence and maturity of this faculty in early childhood is a most wise and beneficent provision of nature. How slow and tedious would be the first steps in knowledge, were the child born, as some teachers seem trying to make him, a sceptic, that is, with a mind which refuses to receive anything as true, except what it has first proved by experience and reason! On the contrary, how much is the acquisition of knowledge expedited, during these years of helplessness and dependency, by this spontaneous, instinctive faith of childhood. The same infinite wisdom and love, which in the order of nature provide for the helpless infant a father and mother to care for it, provide also in the constitution of the infant's mind that instinctive principle or power of faith, which alone makes the father's and mother's love efficacious towards its intellectual growth and development. Of what use were parents or teachers, in instructing a child which required proof for every statement that father, mother, or teacher gives? How cruel to force the confiding, young heart into premature scepticism, by compelling him to hunt up reasons for everything, when he has reasons, to him all-sufficient, in the fact that father, mother or teacher, told him so?

It may seem trifling to dwell so long upon these elementary points. Yet there are wide-spread plans of education which violate every principle here laid down. Educators and systems of education, enjoying the highest popularity, seem to have adopted the theory, at least they tacitly act upon the theory, that the first faculty of the mind to be developed is the reasoning power. Indeed, they are not far from asserting that the whole business of education consists in the cultivation of this power, and they bend accordingly their main energies upon training young children to go through certain processes of reasoning, so called. They require a child to prove everything before receiving it as true, to reason out a rule for himself for every process in arithmetic or grammar, to demonstrate

the multiplication table before daring to use it, or to commit it to memory if indeed they do not forbid entirely its being committed to memory as too parrot-like and mechanical. To commit blindly to memory precious forms of truth, which the wise and good have hived for the use of the race, is poohed at as old fogyish. To receive as true anything which the child cannot fathom, and which he has not discovered or demonstrated for himself, is denounced as slavish. All authority in teaching, growing out of the age and the reputed wisdom of the teacher, all faith and reverence in the learner, growing out of a sense of his ignorance and dependence, are discarded, and the frightened stripling is continually rapped on the knuckles, if he does not at every step show the truth of his allegations by what is called a course of reasoning. Children reason, of course. They should be encouraged and taught to reason. No teacher, who is wise, will neglect this part of a child's intellectual powers. But he will not consider this the season for its main, normal development. He will hold this subject for the present subordinate to many others. Moreover, the methods of reasoning, which he does adopt, will be of a peculiar kind, suited to the nature of childhood, the results being mainly intuitional, rather than the fruits of formal logic. To oblige a young child to go through a formal syllogistic statement in every step in elementary arithmetic, for instance, is simply absurd. It makes nothing plain to a child's mind which was not plain before. On the contrary, it often makes a muddle of what had been perfectly clear. What was in the clear sunlight of intuition, is now in a haze, through the intervening medium of logical terms and forms, through which he is obliged to look at it.

A primary teacher asks her class this question: "If I can buy 6 marbles with one penny, how many marbles can I buy with 5 pennies?" A bright boy who should promptly answer "30" would be sharply rebuked. Little eight-year old Solon on the next bench, has been better trained than that. With stately and solemn enunciation he delivers himself of a performance somewhat of this sort. "If I can buy 6 marbles with 1 penny, how many marbles can I buy with 5 pennies? Answer—I can buy 5 times as many marbles with 5 pennies as I can buy with 1 penny. If, therefore, I can buy 6 marbles with 1 penny, I can buy 5 times as many marbles with 5 pennies; and 5 times 6 marbles are 30 marbles. Therefore, if I can buy 6 marbles with one penny, I can buy 30 marbles with 5 pennies."

And this is termed reasoning! And to train children, by forced and artificial processes, to go through such a rigmarole of words, is recommended as a means of cultivating their reasoning power and of improving their power of expression! It is not pretended that children by such a process become more expert in reckoning. On the contrary, their movements as ready reckoners are retarded by it. Instead of learning to jump at once to the conclusion, lightning-like, by a sort of intuitional process, which is the very essence of an expert accountant, they learn laboriously to stay their march by a cumbersome and confusing circum-

location of words. And the expenditure of time and toil needed to acquire these formulas of expression, which nine times out of ten are to those young minds the mere *dicta magistri*, is justified on the ground that the children, if not learning arithmetic, are learning to reason.

Let me not be misunderstood. I do not advocate the disuse of explanations. Let teachers explain, let children give explanations. Let the rationale of the various processes through which the child goes, receive a certain amount of attention. But the extreme into which some are now going, in primary education, is that of giving too much time to explanation and to theory, and too little to practice. We reverse, too, the order of nature in this matter. What it now takes weeks and months to make clear to the immature understanding, is apprehended at a later day with ease and delight at the very first statement. There is a clear and consistent philosophy underlying this whole matter. It is simply this. In the healthy and natural order of development in educating a young mind, theory should follow practice, not precede it. Children learn the practice of arithmetic very young. They take to it naturally, and learn it easily, and become very rapidly expert practical accountants. But the science of arithmetic is quite another matter, and should not be forced upon them until a much later stage in their advancement.

To have a really correct apprehension of the principle of decimal notation, for instance, to understand that it is purely arbitrary, and that we might in the same way take any other number than ten as the base of a numerical scale,—that we might increase for instance by fives, or eights, or nines, or twelves, just as well as by tens,—all this requires considerable maturity of intellect, and some subtlety of reasoning. Indeed I doubt whether many of the pretentious sciolists, who insist so much on young children giving the rationale of everything, have themselves ever yet made an ultimate analysis of the first step in arithmetical notation. Many of them would open their eyes were you to tell them, for instance, that the number of fingers on your two hands may be just as correctly expressed by the figures 11, 12, 13, 14, or 15, as by the figures ten,—a truism perfectly familiar to every one acquainted with the generalizations of higher arithmetic. Yet it is up-hill work to make the matter quite clear to a beginner. We may wisely therefore give our children at first an arbitrary rule for notation. We give them an equally arbitrary rule for addition. They accept these rules and work upon them, and learn thereby the practical operations of arithmetic. The theory will follow in due time. When perfectly familiar with the practice and the forms of arithmetic, and sufficiently mature in intellect, they awaken gradually and surely, and almost without an effort, to the beautiful logic which underlies the science.

How do we learn language in childhood? Is it not solely on authority and by example? A child who lives in a family where no language is used but that which is logically and grammatically correct, will learn to

speak with logical and grammatical correctness long before it is able to give any account of the processes of its own mind in the matter, or indeed to understand those processes when explained by others. In other words, practice in language precedes theory. It should do so in other things. The parent who should take measures to prevent a child from speaking its mother tongue, except just so far and so fast as it could understand and explain the subtle logic which underlies all language, would be quite as wise as the teacher who refuses to let a child become expert in practical reckoning, until it can understand and explain at every step the rationale of the process,—who will not suffer a child to learn the multiplication table until it has mastered the metaphysics of the science of numbers, and can explain with the formalities of syllogism exactly how and why seven times nine make sixty-three.

These illustrations have carried me a little, perhaps, from my subject. But it seemed necessary to show that I am not beating the air. I have feared lest, in our very best schools, in the rebound from the exploded errors of the old system, we have unconsciously run into an error in the opposite extreme.

My position on the particular point now under consideration, may be summed up briefly, as follows: 1. In developing the faculties, we should follow the order of nature. 2. The faculties of memory and faith should be largely exercised and cultivated in childhood. 3. While the judgment and the reasoning faculty should be exercised during every stage of the intellectual development, the appropriate season for their main development and culture is near the close, rather than near the beginning, of an educational course. 4. The methods of reasoning used with children should be of a simple kind, dealing largely in direct intuitions, rather than formal and syllogistic. 5. It is a mistake to spend a large amount of time and effort in requiring young children formally to explain the rationale of their intellectual processes, and especially in requiring them to give such explanations before they have become by practice thoroughly familiar with the processes themselves.

I have thus endeavored to set forth, in the first place, what a Normal School is, namely, a seminary for professional training in the art and science of teaching; and, secondly, to show, with some particularity and variety of illustration, what teaching is, in its very root and essence; and to make the matter plainer, I have attempted to show the difference between teaching and training, and to explain some two or three out of very many different modes of teaching, and to discuss briefly one of the many points that are involved in the philosophy of education. Some distinct consideration of these subjects, which come up continually for discussion in a Normal School, seemed to be the very best line of argument for showing the necessity of such an institution. To appreciate the full force of this argument, it would be necessary, indeed, to consider the vast array of similar and connected subjects which beset the teacher's path, and

which there is not time now even to enumerate. Let me merely name some few of these subjects.

The Monitorial method of teaching.  
The Catechetical method.  
The Explanatory method.  
The Synthetical method.  
The Analytical method.

Modes of securing in a large school all the while something for all the children to do.

Modes of teaching particular branches: as Spelling, Reading, Mental Arithmetic, Written Arithmetic, Grammar, Geography, Composition, Drawing, Penmanship, Vocal Music, &c.

School apparatus and means for visible illustration.

The development and cultivation of the faculties of observation, attention, memory, association, conception, imagination, &c.

Modes of inspiring scholars with enthusiasm in study, and of cultivating habits of self-reliance.

Topics and times for introducing oral instruction.

Teaching with and without books.

Object teaching.

The formation of museums, and collections of plants, minerals, &c.

Exchange of specimens of penmanship, maps, drawings, minerals, &c., with other schools.

School examinations. Their object, and the different modes of conducting them.

School celebrations, festivals, and excursions.

The daily preparation which a teacher should make for school.

Circumstances which make a teacher happy in his work.

Requisites for success in teaching.

Causes of failure in teaching.

Courses to be pursued in organizing a new school.

Course to be pursued in admitting new scholars.

Making an order of exercises.

Making a code of rules.

Keeping registers of attendance and progress.

Duties of the teacher to the parents and to school directors.

Opening and closing exercises of a school.

Moral and religious instruction and influences.

Modes of cultivating among children a love of truth, honesty, benevolence, and other virtues.

Modes of preventing lying, swearing, stealing, and other vices.

Modes of securing cleanliness of person, neatness of dress, courtesy of language, and gentleness of manners.

Modes of preserving the school-house and appurtenances from defacement.

Keeping the school-room in proper condition as to temperature and ventilation.

Length of school day.

Length and frequency of recess.

Games to be encouraged or discouraged at recess.

Modes of preventing tardiness.

Causes by which the health of children at school is promoted or injured.

Modes of establishing the teacher's authority.

Modes of securing the scholar's affections.

Mode of treating refractory children.

Modes of bringing forward dull, backward children.

Modes of preventing whispering.

The use of emulation.

Prizes and rewards.

But I pause. The very enumeration of such a list, it seems to me,

shows of itself, with overwhelming force, how urgent is the necessity that the teacher should have a time and an institution for considering them, and for obtaining in regard to them definite, well settled views. Some of these questions come up for practical decision every day of a teacher's life, and they are of too serious import to be left to the unpremeditated exigencies of the moment of execution. In a Normal School the novice hears these subjects discussed by teachers and professors of learning and experience, and he is made acquainted with the general usage of the most successful members of the profession. He enters upon his important and responsible work, not only fortified with safeguards against mistake, but furnished with a kind of knowledge which reduces to a minimum his chances of failure, and increases to almost a certainty his chances of success.

## AMERICAN ETHNOLOGY.

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### A PAPER ON A GENERAL SOCIETY FOR THE STUDY OF AMERICAN ANTIQUITIES.

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Written in November, 1865, and communicated to the U. S. Commissioner of Education, by Dr. George A. Matile, late Professor of Law in Neufchâtel, Switzerland, in April, 1867.

THE love for historical traditions brought to this country by its colonists, has been continually fostered up to our days. One of the first occupations of those settlers, was to put in writings the abridged history of their ancestors, leaving to their children, the care of transmitting it to their posterity. By doing so, they obeyed a law traced by God's finger in the human heart. Man does not like wholly to die: he finds pleasure in erecting to himself, whilst living, a monument in the memory of his successors, who, in their turn are anxious to seek their own history in that of their predecessors, and to compare their creeds with theirs, their tastes with their habits, their hopes with their destinies.

The study of history is every way grand: its usefulness is demonstrated by this truth, that both peoples and individuals who care little about their ancestors, are very near being in their turn forgotten by their descendants.

After our first settlers had perpetuated by written annals the memory of their predecessors, their successors devoted themselves to the study of the colonial period; and now they are working in a much wider field, not limiting themselves to the history of their own race alone in the new and the old world, but making frequent excursions into the domain of others, and of classical antiquity.

A very extensive literature shows to what degree the taste for historical studies is now prevalent with us, and how much more has been done in those branches, both by individual labor and spirit of association. Again, there is with us no State, which has not its historical society. Many a county and town even has one of its own.

At the beginning, history was limited to monographs; its objects were individuals, families, groups of families; then came the towns, the counties, the colonies and the States; this being a consequence of the natural course of things, which leads us first to proceed from

the particular to the more general. The value of such monographs can hardly be over-estimated; for through them, the historian brings together the materials he needs for the construction of his edifice. Indeed, for want of sufficient monographs, many an author has created both incomplete and erroneous systems.

By the side of historical societies proper, other auxiliary associations have started up, making statistics, geography and ethnology, the special objects of their investigations.

Ethnology which was formerly treated as an appendix to geography, has now become a science in itself, thanks to newly adopted methods, to numerous materials recently found, and finally to philosophical and historical researches, which have led the investigators to give more importance to the scientific study of man, considered both as an organic being and a member of the human family.

From that study, two branches have arisen, namely, ethnology proper and what might be called anthropo-geography; the latter treating of questions referring to the origin and unity of mankind, diversity of races, their cross breeds, the physical gradations they present on the surface of the globe, the countries in which they live and the conditions of existence which they obey; ethnology, on the other hand, looking merely on peoples as upon societies formed and kept together by the same moral bonds, namely, religion, worship, language, laws, customs.

America has accomplished a large part in that study, especially in investigating the dialects and habits of the numerous tribes of Indians, who are still living on our soil, but who are disappearing with such rapidity, that after a century hence, there will remain but scanty and scattered vestiges of their race. The least we can do for them, doomed as they are, to a total and speedy destruction by us, who are the involuntary tools of their extinction, is to collect materials for their biography.

Is there any direct connection between them and those whom we call the aborigines? This is a question still unsettled, but the solution of which will be the reward of persevering and well conducted studies. One of the means of attaining that end, is to make a thorough study of our Indian tribes whilst they exist; and another, to devote ourselves with ardor and method to the investigation of the antiquities left on our soil by its first occupants. Indeed, the history of our country does not merely embrace the period from its discovery or settlement by European colonists, but also, the tribes

which they found, and their predecessors who are now considered by many as wholly extinct.

Archeology is the most faithful guide for the history of ancient times. Indeed the study of the ancient monuments makes us acquainted with the nations to which they belong, their origin, religion and worship ; their government, their progress in the useful sciences, their manners both in public and private life ; in a word, with their whole social state. The more the people whom we wish to know, is wrapt up in obscurity, the more eager we are to dispel the clouds. The time will come when the antiquities left by the aborigines of this country, will attract as much attention as those of Egypt, and after finding the key thereof, we shall discover more astonishing and perhaps as ancient data as those revealed to us on the shores of the Nile. Time will give us our Champollion, and with him the alphabet of our inscriptions.

The field is large indeed, but let us not be discouraged at its extent, and the relatively small number of laborers. Let us strive to send into it as many reapers as are required. A rich harvest will reward our efforts : we have before us the architecture of the primitive inhabitants of our soil, their statues, bas-reliefs, pictures, engravings on stones and vases ; religious, military and civil implements, inscriptions. No relics of those ancient ages should be neglected. Common and coarse as many of them may appear, they all bear testimony to some fact.

True, science is bound by no political limits, and no nation has the right of arrogating an exclusive field for its investigations. Still, it is natural that American archeology should be more particularly a field for Americans and engage their especial attention. This is our scientific Monroe doctrine. Had we been more vigilant and jealous of our own antiquities, we would have prevented many a loss : our collections would be more complete, and we would not be compelled to go to Europe to study what carelessness on our part has allowed her savants to bear away with them beyond the Atlantic.

Up to this time, we have but a few archeological societies, but they all have been laboring according to their means, and the greater or less duration of their existence. Again, besides them, we have men who, by their long and devoted labors, have justly acquired a universal reputation ; they have investigated the soil and promoted science by their collections and publications. The *Smithsonian Contributions to knowledge and Reports*, show likewise how much that

Institution has done and is still doing for the benefit of archeological science.

It becomes more and more urgent to promote the idea of carefully collecting our antiquities; of putting them together, and bringing them within the reach of the community. Let us apply ourselves to show the people the value of such collections, that they may take an interest in them and contribute to their development.

It is not only to history that archeology and ethnology render useful services; they are also a powerful auxiliary to the study of certain branches of the natural sciences. The lacustrian antiquities discovered over 30 years since in Switzerland, have given a new interest to the objects of art left by the Indians. Both kinds of antiquities carefully collected in the Museums of the new and the old world, will allow the investigators to compare the analogous periods of the intellectual development of the primitive inhabitants of both continents. It would undoubtedly be one of the greatest triumphs of geology, which teaches us the relative age of the fossil plants and animals, to assist us in critically determining the chronology of the human races which have succeeded each other. Let only the geologists prove that the bones, pottery, utensils, &c., they have found in some beds, are cotemporary with the latter, and were not introduced therein long after, under the influence of some cause, perhaps yet entirely unknown. Be it as it may, the lacustrian antiquities of Switzerland have led to the idea, that where historical documents are wanting, the assistance of naturalists may be called for. This explains the presence in geological Museums of archeological objects found in the beds above referred to.

We have societies which devote themselves exclusively to archeology. Science is greatly indebted to them; but few as they are, and with but limited means, they are unable to achieve what they would do in other circumstances. What I have said of monographs, applies to them; they are the necessary foundations to a larger edifice yet to come, for we need a general American Archeologic-Ethnological Society, embracing the whole continent; the special object of which would be the study of the aborigines through their relics, and their eventual relations with the Indians.

Such an association would extend over a ground, which it is not in the power of private societies to cover. It would be endowed with means sufficient to accomplish its grand object; for, in our country, pecuniary aid is not long wanting after the people have become satisfied that it will be applied in an intelligent manner to a useful and

national purpose. Nor would it lack in men; for many have given evidence by their zeal, their science and continuous labors, of their ability to become the architects and sustainers of the edifice I propose to erect.

One of the first duties of such a general society would be to promote associations of the same character in all the States. A State Society would in its turn endeavor to find out in every county an intelligent and active correspondent, whose special mission would be to inform the State Society of all discoveries made on or in the soil: to furnish in its behalf a list of all the curiosities worthy of notice possessed either by private individuals or public institutions, and to send a copy or at least the title of all the works, pamphlets, papers, &c., published within the limits of the county. Once a year, the State Society would publish its proceedings, and an abstract, if not the whole, of the papers received from its correspondents.

A frequent intercourse of those State Societies with the general society, would enable the latter to publish every year a condensed annual of all researches and discoveries made in the domain of antiquity. How much benefit archeologists would derive from such frequent communications between those societies and others of the same kind; how much their work would be facilitated, their publications rendered more complete and useful, it is easy to comprehend.

Centralization is an evil when it goes so far as to impair the parts of the body, be it political or scientific. It is beneficial on the contrary, when instead of atrophying them, it imparts to them life and brings them in closer connection with each other.

A general society, as I understand it, would encourage private investigations, combine individual and collective action and remove any idea of monopolizing the labors of others engaged in the field of science.

Here I can speak from my own experience in Switzerland, my former country. Cantonal or State historical Societies had existed there for over a century, when it was found necessary to introduce into the structure, an element which was to better brace the different parts thereof, and thus to complete and consolidate the whole edifice; and a general historical society was accordingly created, among the founders of which it was my privilege to be. That institution has never impeded the course of its sister societies, which not only have continued to enjoy their full liberty of action and have prospered, but also have increased in numbers.

Archeology should be made popular through all the means within

the reach of societies, such as publications and lectures. Printed instructions, given by a common understanding, should show the people the importance of archeology, the mode of searching and surveying the soil, of keeping, collecting, reproducing and packing up the objects found. Well ordained exhibitions of the latter, would greatly contribute to that end, and lead people to present such curiosities, which are kept in families where, isolated as they are, they have but little value; whilst being a part of a collection, they would gain in importance and increase that of the specimens by the side of which they would find a proper place.

Casts from originals not being at all times easy to make, photography has been often resorted to for the reproduction of specimen types found with us. By these means and others, the comparison between the mental development of the primitive inhabitants of Europe and of this country at analogous periods, has been facilitated. We see from the *Smithsonian Reports* that the Institution of that name, desiring to add to its collections all the materials that might throw any light on the physical type, the arts and manufactures of the primitive inhabitants of this country, has requested the assistance of the officers of the army and navy, the missionaries, the superintendents of the Indian Departments, the agents residing among the Indians, and travellers in general, to make for that purpose an extensive use of photography.

But, great as are the services rendered by this art, its impressions lack many of the advantages furnished by casts, which reproduce the *fac-simile* of the originals on their form, size, and color. Therefore, while fully approving the use of photography in many instances, I would quite earnestly recommend the moulding of original specimens or even copies, in plaster of Paris, cement or other like material, whenever it is feasible.

Casts therefrom will always be preferable to pictures however good they may be, and are far more appropriate to Museums than reproductions on paper which require to be put in frames or portfolios.

Scientific societies can not dispense with such repositories of curiosities or works of art, which are necessary tools in the hands of investigators. Museums are the collectors, safe-keepers, and preservers of those productions; more than that, they multiply them and thus enable themselves to make exchanges and to considerably increase their own collections. Most museums in Europe have a moulder for that purpose.

Such Museums erected with us, in every State at least, would awaken an interest among the people who would gladly contribute in some way or other to their growth. Any delay in the reproduction of originals is detrimental to science. How many have been destroyed which might have been preserved, how many have gone abroad to be placed there in public collections, while they ought to adorn our Museums. Let us take casts as promptly as possible of what we have preserved, and let us take enough to enrich through exchanges from abroad our collections, and try to get copies of the originals we have lost.

One of the first duties of the general society I have in view, would be to open a correspondence with all the Directors of Museums in Europe, in order to ascertain what they possess which may throw light upon the antiquities of our soil, and to propose to them to make with us an exchange of their duplicates or casts. Such an appeal would be eagerly responded to from all quarters of the Old World. There is no serious difficulty in obtaining such a result.

Let a general society or an association of a few lovers of archeology take the matter in hand and open a moulding shop, and they will soon see what great benefits they will derive from their exchanges.

I speak of these things from my own long and practical experience acquired in Museums both in Europe and America. As I was conversing on the subject four years ago with the Secretary of the Smithsonian Institution, he at once saw the importance of the matter, and a few days after, I was at work moulding Indian antiquities owned by the Institution and many others entrusted to it by the Philosophical Society of Philadelphia and private persons. The exchange of my casts with Museums and savants, both in the United States and abroad, had just begun, when a fire consumed in January, 1866, a portion of the building, and destroyed a part of its collections, which put an end to exchanges and to my casts. The latter represented men and women in various attitudes, idols, monsters, animals fantastic and real, architectural ornaments, tools, bas-reliefs, flowers, skulls, &c. The large inscription of Palenque, the original of which is in the Institution, and which I discovered to be the second part of the tablet given by John L. Stevens' *Incidents of Travels in Central America, Chiapas and Yucatan*, Vol. I, p. 344-345, Casa No. 2, and page 346, l. 3-8, was among my casts.

Another chief duty of a general archeological society, would be to prepare and issue a catalogue of American archeology, indicating the place and date of the publication of works relating to the sub-

ject. This catalogue should embrace not only books and special pamphlets, but everything that would throw light on the matter, such as short notices and information which are now and then found in daily papers. The collection of these minute materials would especially be the object of local correspondents, who would report their respective State Societies. The final communication of those papers to the general society, would allow the latter to form a full and most useful catalogue. Catalogues of this description have been published for various branches of science. We have a *Bibliotheca juridica*, a *Nomenclator zoologicus*, &c., why should not we have a *Bibliotheca archeologica Americana*? and give thereby our archeological societies the means of completing their libraries which to them are as indispensable as Museums.

I have exhibited some of our desideratums for the promotion of archeological science among us, and the mode of collecting and multiplying our materials; I have pointed out the necessity of bringing to life a General Archeological Society through which only all these ends can be attained.

Why should not a Congress of American Archeologists be convened to consider this subject? Who will take the matter at heart and in hand?

GEO. A. MATILE.

WASHINGTON.





*Rev. Egerton Ryerson, D.D.*

